1998 Comprehensive Ground Water Monitoring Evaluation (CME)

Boyertown Sanitary Landfill
Douglass Township, Montgomery County

Pa. D.E.P., Southeast Regional Office
Waste Management Program
Suite 6010 Lee Park
555 North Lane Conshohocken, PA 19428

Facility Location:

Boyertown Sanitary Landfill is located on Merkel Road, in Douglass Township, Montgomery County. A facility location map is provided as **Figure 1**. This map is excerpted from the U.S. Geological Survey 7.5 Minute Topographic Series, **Sassamansville Quadrangle**.

Narrative:

A court order was issued in March of this year directing Boyertown Sanitary Disposal Co. and Mr. Warren K. Frame to complete several tasks associated with continued non-compliance at this facility. One of the tasks enumerated in this order was the completion of a detailed assessment of the current status of the landfill operation. A copy of this assessment report is included as **Appendix B**, and the Department's preliminary response to the Commonwealth Court of Pennsylvania with respect to this report and compliance with the court order of March is included in **Appendix C**

CME Worksheet:

A completed Comprehensive Ground Water Monitoring Evaluation Worksheet is provided as **Appendix A**.

Inspection Reports

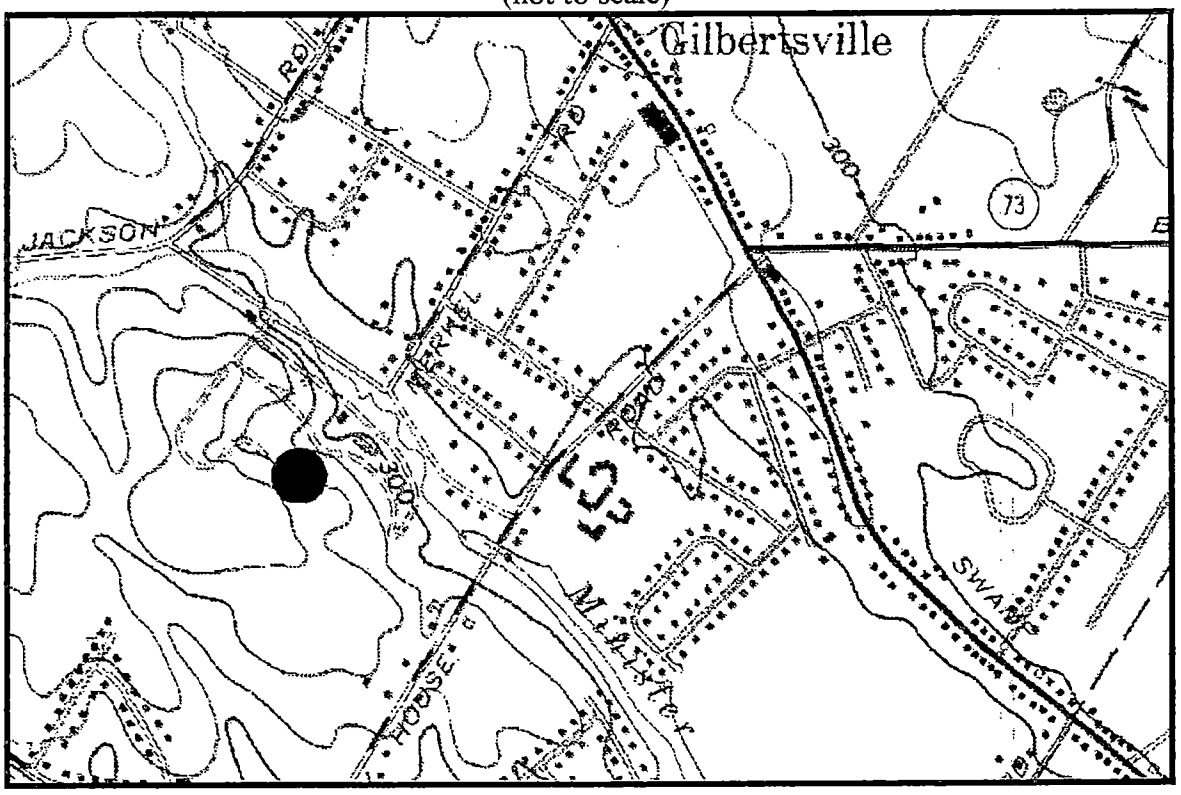
Inspection reports for this facility during 1998 are included as **Appendix D**

Analytical Results:

Confirmatory sampling was not conducted at this facility as a result of the operator's failure to notify the Department prior to sampling activities.

Figure I (Facility Location Map)

Boyertown Sanitary Landfill
Douglass Township, Montgomery County
(not to scale)



Excerpted From:
U.S. Geological Survey 7.5 Minute Topographic Series, **Sassamansville Quadrangle**
(large shaded circle marks approximate location of facility)

Appendix A (Comprehensive Ground Water Monitoring Evaluation Worksheet)

APPENDIX A

COMPREHENSIVE GROUND-WATER MONITORING EVALUATION WORKSHEET

The following worksheets have been designed to assist the enforcement officer/ technical reviewer in evaluating theground-water monitoring system an owner/operator uses to collect and analyze samples of ground water. The focus of the worksheets is technical adequacy as it relates to obtaining and analyzing representative samples of ground water. The basis of the worksheets is the final RCRA Ground Water Monitoring Technical Enforcement Guidance Document which describes in detail the aspects of ground-water monitoring which EPA deems essential to meet the goals of RCRA. Appendix A is not a regulatory checklist. Specific technical deficiencies in the monitoring system can, however, be related to the regulations as illustrated in Figure 4.3 taken from the RCRA Ground-Water Monitoring Compliance Order Guide (COG) (included at the end of the appendix). The enforcement officer, in developing an enforcement order, should relate the technical assessment from the worksheets to the regulations using Figure 4.3 from the COG as a guide.

Comprehensive Ground-Water Monitoring Evaluation	Y/N
I. Office Evaluation Technical Evaluation of the Design of the Ground-Water Monitoring System	
A. Review of Relevant Documents	
1. What documents were obtained prior to conducting the inspection:	
a. RCRA Part A permit application?	Y
b. RCRA Part B permit application?	Y
c. Correspondence between the owner/operator and appropriate agencies or citizen's groups?	Y
d. Previously conducted facility inspection reports?	Y
e. Facility's contractor reports?	N
f. Regional hydrogeologic, geologic, or soil reports?	Y
g. The facility's Sampling and Analysis Plan?	N
h. Ground-water Assessment Program Outline (or Plan, if thefacility is in assessment monitoring)?	N
i. Other (specify) _____	—

	Y/N
B. Evaluation of the Owner/Operator's Hydrogeologic Assessment 1. Did the owner/operator use the following direct techniques in the hydrogeologic assessment:	–
a. Logs of the soil borings/rock corings (documented by a professional geologist, soil scientist, or geotechnical engineer)?	?
b. Materials tests (e.g., grain size analyses, standard penetration tests, etc.)?	?
c. Piezometer installation for water level measurments at different depths?d. Slug tests?	?
e. Pump tests?	?
f. Geochemical analyses of soil samples?	?
g. Other (specify) (e.g., hydrochemical diagrams and wash analysis)	?
2. Did the owner/operator use the following indirect technique to supplement direct techniques data:	–
a. Geophysical well logs?	?
b. Tracer studies?	?
c. Resistivity and/or electromagnetic conductance?	?
d. Seismic Survey?	?
e. Hydraulic conductivity measurements of cores?	?
f. Aerial photography?	?
g. Ground penetrating radar?	?
h. Other (specify)	?
3. Did the owner/operator document and present the raw data from the site hydrogeologic assessment?	Y
4. Did the owner/operator document methods (criteria) used to correlate and analyze the information?	Y
5. The owner/operator prepare the following:	–
a. Narrative description of geology?	Y
b. Geologic cross sections?	N
c. Geologic and soil maps?	N
d. Boring/coring logs?	Y
e. Structure contour maps of the differing water bearing zones and confining layer?	N
f. Narrative description and calculation of ground-water flows?	Y

	Y/N
g. Water table/potentiometric map?	Y
h. Hydrologic cross sections?	N
6. Did the owner/operator obtain a regional map of the area and delineate the facility?	Y
If yes, does this map illustrate: a. Surficial geology features?	N
b. Streams, rivers, lakes, or wetlands near the facility?	Y
c. Discharging or recharging wells near the facility?	N
7. Did the owner/operator obtain a regional hydrogeologic map?	Y
If yes, does this hydrogeologic map indicate: a. Major areas of recharge/discharge?	Y
b. Regional ground-water flow direction?	Y
c. Potentiometric contours which are consistent with observed water level elevations?	Y
8. Did the owner/operator prepare a facility site map?	Y
If yes, does the site map show: a. Regulated units of the facility (e.g., landfill areas,impoundments)?	Y
b. Any seeps, springs, streams, ponds, or wetlands?	Y
c. Location of monitoring wells, soil borings, or test pits?	Y
d. How many regulated units does the facility have? _____	1
If more than one regulated unit then, • Does the waste management area encompass all regulated units?	–
• Is a waste management area delineated for each regulated unit?	–
C. Characterization of Subsurface Geology of Site 1. Soil boring/test pit program:	–
a. Were the soil borings/test pits performed under thesupervision of a qualified professional?	Y
b. Did the owner/operator provide documentation for selecting the spacing for borings?	Y
c. Were the borings drilled to the depth of the first confining unit below the uppermost zone of saturation or ten feet into bedrock?	?
d. Indicate the method(s) of drilling:	–

	Y/N
Auger (hollow or solid stem) ____ Mud rotary ____ Reverse rotary ____ Cable tool ____ Jetting ____ Other (specify) _____	?
e. Were continuous sample corings taken?	?
f. How were the samples obtained (checked method[s]) • Split spoon ____ • Shelby tube, or similar ____ • Rock coring ____ • Ditch sampling ____ • Other (explain) _____	?
g. Were the continuous sample corings logged by a qualified professional in geology?	?
h. Does the field boring log include the following information: • Hole name/number?	?
• Date started and finished?	?
• Driller's name?	?
• Hole location (i.e., map and elevation)?	?
• Drill rig type and bit/auger size?	?
• Gross petrography (e.g., rock type) of each geologic unit?	?
• Gross mineralogy of each geologic unit?	?
• Gross structural interpretation of each geologic unit and structural features (e.g., fractures, gouge material, solution channels, buried streams or valleys, identification of depositional material)?	?
• Development of soil zones and vertical extent and description of soil type?	?
• Depth of water bearing unit(s) and vertical extent of each?	?
• Depth and reason for termination of borehole?	?
• Depth and location of any contaminant encountered in borehole?	?
• Sample location/number?	?
• Percent sample recovery?	?
• Narrative descriptions of: —Geologic observations?	?
—Drilling observations?	?
i. Were the following analytical tests performedon the core samples: • Mineralogy (e.g., microscopic tests and x-ray diffraction)?	?
• Petrographic analysis: —degree of crystallinity and cementation of matrix?	?
—degree of sorting, size fraction (i.e., sieving), textural variations?	?
—rock type(s)?	?

	Y/N
—soil type?	?
—approximate bulk geochemistry?	?
—existence of microstructures that may effect or indicate fluid flow?	?
• Falling head tests?	?
• Static head tests?	?
• Settling measurements?	?
• Centrifuge tests?	?
• Column drawings?	?
D. Verification of Subsurface Geological Data	
1. Has the owner/operator used indirect geophysical methods to supplement geological conditions between borehole locations?	N
2. Do the number of borings and analytical data indicate that the confining layer displays a low enough permeability to impede the migration of contaminants to any stratigraphically low water-bearing units?	N
3. Is the confining layer laterally continuous across the entire site?	N/A
4. Did the owner/operator consider the chemical compatibility of the site-specific waste types and the geologic materials of the confining layer?	Y
5. Did the geologic assessment address or provide means for resolution of any information gaps of geologic data?	N
6. Do the laboratory data corroborate the field data for petrography?	?
7. Do the laboratory data corroborate the field data for mineralogy and subsurface geochemistry?	?
E. Presentation of Geologic Data	
1. Did the owner/operator present geologic cross sections of the site?	Y
2. Do cross sections:	
a. identify the types and characteristics of the geologic materials present?	Y
b. define the contact zones between different geologic materials?	Y
c. note the zones of high permeability or fracture?	Y
d. give detailed borehole information including:	N

	Y/N
• location of borehole?	N
• depth of termination?	N
• location of screen (if applicable)?	N
• depth of zone(s) of saturation?	Y
• backfill procedure?	N
3. Did the owner/operator provide a topographic map which was constructed by a licensed surveyor?	Y
4. Does the topographic map provide: a. contours at a maximum interval of two-feet?	Y
b. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, storm drain, pipelines, etc.)?	Y
c. descriptions of nearby water bodies?	Y
d. descriptions of off-site wells?	N
e. site boundaries?	Y
f. individual RCRA units?	Y
g. delineation of the waste management area(s)?	Y
h. well and boring locations?	Y
5. Did the owner/operator provide an aerial photograph depicting the site and adjacent off-site features?	N
6. Does the photograph clearly show surface water bodies, adjacent municipalities, and residences and are these clearly labelled?	N
F. Identification of Ground-Water Flowpaths 1. Ground-water flow direction a. Was the well casing height measured by a licensed surveyor to the nearest 0.01 feet?	Y
b. Were the well water level measurements taken within a 24 hour period?	Y
c. Were the well water level measurements taken to the nearest 0.01 feet?	Y
d. Were the well water levels allowed to stabilize after construction and development for a minimum of 24 hours prior to measurements?	Y
e. Was the water level information obtained from (check appropriate one): • multiple piezometers placed in single borehole? ____ • vertically nested piezometers in closely spaced separate ____ • boreholes? ____ • monitoring wells? X	

	Y/N
f. Did the owner/operator provide construction details for the piezometers?	N
g. How were the static water levels measured (check method[s]). • Electric water sounder ____ • Wetted tape ____ • Air line ____ • Other (explain) ____	—
h. Was the well water level measured in wells with equivalent screened intervals at an equivalent depth below the saturated zone?	N
i. Has the owner/operator provided a site water table (potentiometric) contour map?	Y
If yes, • Do the potentiometric contours appear logical and accurate based on topography and presented data? (Consult water level data)	Y
• Are ground-water flow-lines indicated?	Y
• Are static water levels shown?	Y
• Can hydraulic gradients be estimated?	Y
j. Did the owner/operator develop hydrologic cross sections of the vertical flow component across the site using measurements from all wells?	N
k. Do the owner/operator's flow nets include: • piezometer locations?	N
• depth of screening?	N
• width of screening?	N
• measurements of water levels from all wells and piezometers?	N
2. Seasonal and temporal fluctuations in ground-water a. Do fluctuations in static water levels occur? If yes, are the fluctuations caused by any of the following:	Y
—Off-site well pumping	N
—Tidal processes or other intermittent natural variations (e.g., river stage, etc.)	N
—On-site well pumping	N
—Off-site, on-site construction or changing land use patterns	N
—Deep well injection	N
—Seasonal variations	Y
—Other (specify) ____	—
b. Has the owner/operator documented sources and patterns that contribute to or affect the ground-water patterns below the waste management?	Y
c. Do water level fluctuations alter the general ground-water gradients and flow directions?	Y
d. Based on water level data, do any head differentials occur that may indicate a vertical flow component in the saturated zone?	Y

	Y/N
e. Did the owner/operator implement means for gauging long term effects on water movement that may result from on-site or off-site construction or changes in land-use patterns?	N
3. Hydraulic conductivity a. How were hydraulic conductivities of the subsurface materials determined?	?
• Single-well tests (slug tests)?	?
• Multiple-well tests (pump tests)	?
• Other (specify) _____	?
b. If single-well tests were conducted, was it done by: • Adding or removing a known volume of water?	?
• Pressurizing well casing?	?
c. If single well tests were conducted in a highly permeable formation, were pressure transducers and high-speed recording equipment used to record the rapidly changing water levels?	?
d. Since single well tests only measure hydraulic conductivity in a limited area, were enough tests run to ensure a representative measure of conductivity in each hydrogeologic unit?	?
e. Is the owner/operator's slug test data (if applicable) consistent with existing geologic information (e.g., boring logs)?	?
f. Were other hydraulic conductivity properties determined?	?
g. If yes, provide any of the following data, if available: • Transmissivity ____ • Storage coefficient ____ • Leakage ____ • Permeability ____ • Porosity ____ • Specific capacity ____ • Other (specify) _____	?
4. Identification of the uppermost aquifer a. Has the extent of the uppermost saturated zone (aquifer) in the facility area been defined? If yes,	Y
• Are soil boring/test pit logs included?	N
• Are geologic cross-sections included?	N
b. Is there evidence of confining (competent, unfractured, continuous, and low permeability) layers beneath the site? If yes,	Y
• how was continuity demonstrated? REGIONAL PETROGRAPHY	
c. What is hydraulic conductivity of the confining unit (if present)? CM/Sec How was it determined?	?

	Y/N
d. Does potential for other hydraulic communication exist (e.g., lateral inconnnuity between geologic units, facies changes, fracture zones, cross cutting structures, or chemical corrosion/alteration of geologic units by leachage? If yes or no, what is the rationale? REGIONAL FRACTURES, BRUNSWICK FM.	
G. Office Evaluation of the Facility's Ground-Water Monitoring System—Monitoring Well Design and Construction: These questions should be answered for each different well design present at the facility. 1. Drilling Methods a. What drilling method was used for the well? • Hollow-stem auger ☐ • Solid-stem auger ☐ • Mud rotary ☐ • Air rotary ☐ • Reverse rotary ☐ • Cable tool ☐ • Jetting ☐ • Air drill w/ casing hammer ☐ • Other (specify) _____	?
b. Were any cutting fluids (including water) or additives used during drilling? If yes, specify: • Type of drilling fluid _____ • Source of water used _____ • Foam _____ • Polymers _____ • Other _____	?
c. Was the cutting fluid, or additive, identified?	N
d. Was the drilling equipment steam-cleaned prior to drilling the well? • Other methods _____	?
e. Was compressed air used during drilling? If yes, • was the air filtered to remove oil?	?
f. Did the owner/operator document procedure for establishing the potentiometric surface? If yes, • how was the location established?	?
g. Formation samples	?

	Y/N
• Were formation samples collected initially during drilling?	?
• Were any cores taken continuous?	?
• If not, at what interval were samples taken?	?
• How were the samples obtained? —Split spoon —Shelby tube —Core drill —Other (specify)	?
• Identify if any physical and/or chemical tests were performed on the formation samples (specify) _____ _____ _____	?
2. Monitoring Well Construction Materials a. Identify construction materials (by number) and diameters (ID/OD) Material / Diameter • Primary Casing: PVC / 4" • Secondary or outside casing (doubleconstruction): ____ / ____ • Screen: ____ / ____	
b. How are the sections of casing and screen connected? • Pipe sections threaded	?
• Couplings (friction) with adhesive or solvent	?
• Couplings (friction) with retainer screws	?
• Other (specify)	?
c. Were the materials steam-cleaned prior to installation? • If no, how were the materials cleaned? _____	?
3. Well Intake Design and Well Development	?
a. Was a well intake screen installed? • What is the length of the screen for the well? _____	?
• Is the screen manufactured?	?
b. Was a filter pack installed?	?
• What kind of filter pack was employed? _____	?
• Is the filter pack compatible with formationmaterials?	?
• How was the filter pack installed? _____	?

	Y/N
• What are the dimensions of the filter pack? _____	?
• Has a turbidity measurement of the well water ever been made?	Y
• Have the filter pack and screen been designed for the insitu materials? _____	?
c. Well development • Was the well developed?	Y
• What technique was used for well development? —Surge block —Bailer —Air surging XXX—Water pumping —Other (specify) _____	
4. Annular Space Seals a. What is the annular space in the saturated zone directlyabove the filter pack filled with: —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete) —Other (specify)	?
b. Was the seal installed by: —Dropping material down the hole and tamping —Dropping material down the inside of hollow-stem auger —Tremie pipe method —Other (specify)	?
c. Was a different seal used in the unsaturated zone? If yes,	?
• Was this seal made with? —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete)- Other (specify)	?
• Was this seal installed by? —Dropping material down the hole and tamping —Dropping material down the inside of hollow stem auger —Other (specify)	?
d. Is the upper portion of the borehole sealed with a concrete cap to prevent infiltration from the surface?	Y
e. Is the well fitted with an above-ground protectivedevice and bumper guards?	Y
f. Has the protective cover been installed with locks to prevent tampering?	Y

	Y/N
H. Evaluation of the Facility's Detection Monitoring Program	
1. Placement of Downgradient Detection Monitoring Wells	
a. Are the ground-water monitoring wells or clusters located immediately adjacent to the waste management area?	Y
b. How far apart are the detection monitoring wells?	100-500'
c. Does the owner/operator provide a rationale for thelocation of each monitoring well or cluster?	Y
d. Does the owner/operator identified the well screenlengths of each monitoring well or clusters?	N
e. Does the owner/operator provide an explanation for the well screen lengths of each monitoring well orcluster?	N
f. Do the actual locations of monitoring wells orclusters correspond to those identified by the owner/operator?	Y
2. Placement of Upgradient Monitoring Wells	
a. Has the owner/operator documented the location ofeach upgradient monitoring well or cluster?	Y
b. Does the owner/operator provide an explanation forthe location(s) of the upgradient monitoring wells?	Y
c. What length screen has the owner/operator employed inthe background monitoring well(s)?	?
d. Does the owner/operator provide an explanation for the screen length(s) chosen?	N
e. Does the actual location of each background monitoring well or cluster correspond to that identified by the owner/operator?	Y
I. Office Evaluation of the Facility's Assessment Monitoring Program	
1. Does the assessment plan specify:	Y
a. The number, location, and depth of wells?	
b. The rationale for their placement and identify the basis that will be used to select subsequent sampling locations and depths in later assessment phases?	Y
2. Does the list of monitoring parameters include all hazardous waste constituents from the facility?	Y

	Y/N
a. Does the water quality parameter list include other important indicators not classified as hazardous waste consituents?	N
b. Does the owner/operator provide documentation for he listed wastes which are not included?	N
3. Does the owner/operator's assessment plan specify the procedures to be used to determine the rate of constituent migration in the ground-water?	N
4. Has the owner/operator specified a schedule of implementation in the assessment plan?	N
5. Have the assessment monitoring objectives been clearly defined in the assessment plan?	N
a. Does the plan include analysis and/or re-evaluation to determine if significant contamination has occurredin any of the detection monitoring wells?	N
b. Does the plan provide for a comprehensive program of investigation to fully characterize the rate and extent of contaminant migration from the facility?	N
c. Does the plan call for determining the concentrations of hazardous wastes and hazardous waste constituentsin the ground water?	N
d. Does the plan employ a quarterly monitoring program?	N
6. Does the assessment plan identify the investigatory methods that will be used in the assessment phase?	Y
a. Is the role of each method in the evaluation fully described?	N
b. Does the plan provide sufficient descriptions of the direct methods to be used?	N
c. Does the plan provide sufficient descriptions of the indirect methods to be used?	N
d. Will the method contribute to the further characterization of the contaminant movement?	Y
7. Are the investigatory techniques utilized in the assessment program based on direct methods?	Y
a. Does the assessment approach incorporate indirect methods to further support direct methods?	N
b. Will the planned methods called for in the assessment approach ultimately meet performance standards for assessment monitoring?	?
c. Are the procedures well defined?	Y
d. Does the approach provide for monitoring wells similar in design and construction as the detectionmonitoring wells?	Y

	Y/N
e. Does the approach employ taking samples during drilling or collecting core samples for further analysis?	N
8. Are the indirect methods to be used based on reliable and accepted geophysical techniques?	N/A
a. Are they capable of detecting subsurface changesresulting from contaminant migration at the site?	N/A
b. Is the measurement at an appropriate level of sensitivity to detect ground-water quality changes at the site?	Y
c. Is the method appropriate considering the nature of the subsurface materials?	Y
d. Does the approach consider the limitations of these methods?	Y
e. Will the extent of contamination and constituent concentration be based on direct methods and sound engineering judgment? (Using indirect methods tofurther substantiate the findings.)	Y
9. Does the assessment approach incorporate any mathe-matical modeling to predict contaminant movement?	N
a. Will site specific measurements be utilized toaccurately portray the subsurface?	?
b. Will the derived data be reliable?	?
c. Have the assumptions been identified?	?
d. Have the physical and chemical properties of the site-specific wastes and hazardous waste constituentsbeen identified?	Y
J. Conclusions 1. Subsurface geology a. Has sufficient data been collected to adequately define petrography and petrographic variation?	Y
b. Has the subsurface geochemistry been adequately defined?	Y
c. Was the boring/coring program adequate to definesubsurface geologic variation?	?
d. Was the owner/operator's narrative description complete and accurate in its interpretation of the data?	Y
e. Does the geologic assessment address or provide means to resolve any information gaps?	?
2. Ground-water flowpaths a. Did the owner/operator adequately establish the hori-zontal and vertical components of ground-water flow?	Y

	Y/N
b. Were appropriate methods used to establish ground-water flowpaths?	Y
c. Did the owner/operator provide accurate documentation?	N
d. Are the potentiometric surface measurements valid?	?
e. Did the owner/operator adequately consider the seasonal and temporal effects on the ground-water?	?
f. Were sufficient hydraulic conductivity tests performed to document lateral and vertical variationin hydraulic conductivity in the entire hydrogeologic subsurface below the site?	N
3. Uppermost Aquifer a. Did the owner/operator adequately define the upper-most aquifer?	Y
4. Monitoring Well Construction and Design a. Do the design and construction of the owner/operator's ground-water monitoring wells permit depth discrete ground-water samples to be taken?	Y
b. Are the samples representative of ground-water quality?	?
c. Are the ground-water monitoring wells structurally stable?	Y
d. Does the ground-water monitoring well's design and construction permit an accurate assessment of aquifer characteristics?	Y
5. Detection Monitoring a. Downgradient Wells • Do the location, and screen lengths of the ground-water monitoring wells or clusters in the detection monitoring system allow the immediate detection of a release of hazardous waste or constituents from the hazardous waste management area to the uppermost aquifer?	?
b. Upgradient Wells • Do the location and screen lengths of the upgradient (background) ground-water monitoring wells ensure the capability of collecting ground-water samples representative of upgradient (background) ground-water quality including any ambient heterogenous chemical characteristics?	Y
6. Assessment Monitoring a. Has the owner/operator adequately characterized site hydrogeology to determine contaminant migration?	Y
b. Is the detection monitoring system adequately designed and constructed to immediately detect any contaminant release?	?

	Y/N
c. Are the procedures used to make a first determinationof contamination adequate?	N
d. Is the assessment plan adequate to detect, characterize, and track contaminant migration?	Y
e. Will the assessment monitoring wells, given site hydrogeologic conditions, define the extent and concentration of contamination in the horizontal and vertical planes?	Y
f. Are the assessment monitoring wells adequately designed and constructed?	?
g. Are the sampling and analysis procedures adequate to provide true measures of contamination?	Y
h. Do the procedures used for evaluation of assessment monitoring data result in determinations of the rate of migration, extent of migration, and hazardous constituent composition of the contaminant plume?	N
i. Are the data collected at sufficient frequency and duration to adequately determine the rate of migration?	N
j. Is the schedule of implementation adequate?	N
k. Is the owner/operator's assessment monitoring plan adequate?	N
• If the owner/operator had to implement hisassessment monitoring plan, was it implemented satisfactorily?	N
II. Field Evaluation **A. Ground-Water Monitoring System** 1. Are the numbers, depths, and locations of monitoring wells in agreement with those reported in the facility's monitoring plan? (See Section 3.2.3.)	Y
B. Monitoring Well Construction 1. Identify construction material material diameter a. Primary Casing PVC . b. Secondary or outside casing STEEL	
2. Is the upper portion of the borehole sealed with conrete to prevent infiltration from the surface?	Y
3. Is the well fitted with an above-ground protective device?	Y
4. Is the protective cover fitted with locks to prevent tampering? If a facility utilizes more than a single well design, answer the above questions for each well design?	Y

	Y/N
III. Review of Sample Collection Procedures	
A. Measurement of Well Depths /Elevation	
1. Are measurements of both depth to standing water and depth to the bottom of the well made?	N
2. Are measurements taken to the 0.01 feet?	N
3. What device is used?	N/A
4. Is there a reference point established by a licensed surveyor?	N/A
5. Is the measuring equipment properly cleaned betweenwll locations to prevent cross contamination?	N
B. Detection of Immiscible Layers	
1. Are procedures used which will detect light phase immiscible layers?	N
2. Are procedures used which will detect heavy phase immiscible layers?	N
C. Sampling of Immiscible Layers	
1. Are the immiscible layers sampled separately prior to well evacuation?	N
2. Do the procedures used minimize mixing with watersoluble phases?	N
D. Well Evacuation	
1. Are low yielding wells evacuated to dryness?	N
2. Are high yielding wells evacuated so that at least three casing volumes are removed?	N
3. What device is used to evacuate the wells?	N/A
4. If any problems are encountered (e.g., equipmentmalfunction) are they noted in a field logbook?	N

	Y/N
E. Sample Withdrawal 1. For low yielding wells, are samples for volatiles, pH, and oxidation/reduction potential drawn first after the well recovers?	N
2. Are samples withdrawn with either flurocarbon/resins or stainless steel (316, 304 or 2205) sampling devices?	N
3. Are sampling devices either bottom valve bailers or positive gas displacement bladder pumps?	N
4. If bailers are used, is fluorocarbon/resin coated wire, single strand stainless steel wire, or monofilament used to raise and lower the bailer?	N
5. If bladder pumps are used, are they operated in acontinuous manner to prevent aeration of the sample?	N
6. If bailers are used, are they lowered slowly to prevent degassing of the water?	N
7. If bailers are used, are the contents transferred to the sample container in a way that minimizes agitation and aeration?	N
8. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to insertion into the well?	N
9. If dedicated sampling equipment is not used, is equipment disassembled and thoroughly cleaned between samples?	N
10. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Dilute acid rinse (HNO_3 or HCl)?11. If samples are for organic analysis, does the cleaning procedure include the following sequential steps:	N
11. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Nonphosphate detergent wash?	N
b. Tap water rinse?	N
c. Distilled/deionized water rinse?	N
d. Acetone rinse?	N
e. Pesticide-grade hexane rinse?	N

	Y/N
12. Is sampling equipment thoroughly dry before use?	N
13. Are equipment blanks taken to ensure that sample cross-contamination has not occurred?	N
14. If volatile samples are taken with a positive gas displacement bladder pump, are pumping rates below 100 ml/min?	N
F. In-situ or Field Analyses	
1. Are the following labile (chemically unstable) parameters determined in the field:	N
a. pH?	N
b. Temperature?	N
c. Specific conductivity?	N
d. Redox potential?	N
e. Chlorine?	N
f. Dissolved oxygen?	N
g. Turbidity?	N
h. Other (specify) _____	N
2. For in-situ determinations, are they made after well evacuation and sample removal?	N
3. If sample is withdrawn from the well, is parameter measured from a split portion?	N
4. Is monitoring equipment calibrated according to mannufacturers' specifications and consistent with SW-846?	N
5. Is the date, procedure, and maintenance for equipment calibration documented in the field logbook?	N
IV. Review of Sample Preservation and Handling Procedures	
A. Sample Containers	
1. Are samples transferred from the sampling device directly to their compatible containers?	N

	Y/N
2. Are sample containers for metals (inorganics) analyses polyethylene with polypropylene caps?	N
3. Are sample containers for organics analysis glass bottles with fluorocarbonresin-lined caps?	N
4. If glass bottles are used for metals samples are the caps fluorocarbonresin-lined?	N
5. Are the sample containers for metal analyses cleanedusing these sequential steps:	N
a. Nonphosphate detergent wash?	N
b. 1:1 nitric acid rinse?	N
c. Tap water rinse?	N
d. 1:1 hydrochloric acid rinse?	N
e. Tap water rinse?	N
f. Distilled/deionized water rinse?	N
6. Are the sample containers for organic analyses cleaned using these sequential steps:	N
a. Nonphosphate detergent/hot water wash?	N
b. Tap water rinse?	N
c. Distilled/deionized water rinse?	N
d. Acetone rinse?	N
e. Pesticide-grade hexane rinse?	N
7. Are trip blanks used for each sample container type to verify cleanliness?	N
B. Sample Preservation Procedures	
1. Are samples for the following analyses cooled to 4°C:	N
a. TOC?	
b. TOX?	
c. Chloride?	N
d. Phenols?	N
e. Sulfate?	N
f. Nitrate?	N
g. Coliform bacteria?	N
h. Cyanide?	N
i. Oil and grease?	N
j. Hazardous constituents ()261, Appendix VIII)?	N

	Y/N
2. Are samples for the following analyses field acidified to pH <2 with HNO_3:	
a. Iron?	N
b. Manganese?	N
c. Sodium?	N
d. Total metals?	N
e. Dissolved metals?	N
f. Fluoride?	N
g. Endrin?	N
h. Lindane?	N
i. Methoxychlor?	N
j. Toxaphene?	N
k. 2,4, D?	N
l. 2,4,5 TP Silvex?	N
m. Radium?	N
n. Gross alpha?	N
o. Gross beta?	N
3. Are samples for the following analyses field acidified to pH <2 with H_2SO_4:	N
a. Phenols?	
b. Oil and grease?	N
4. Is the sample for TOC analyses field acified to pH <2 with HCl?	N
5. Is the sample for TOX analysis preserved with 1 ml of 1.1 M sodium sulfite?	N
6. Is the sample for cyanide analysis preserved with NaOH to pH >12?	N
C. Special Handling Considerations	
1. Are organic samples handled without filtering?	N
2. Are samples for volatile organics transfered to the appropriate vials to eliminate headspace over the sample?	N
3. Are samples for metal analysis split into two portions?	N
4. Is the sample for dissolved metals filtered through a 0.45 micron filter?	N
5. Is the second portion not filtered and analyzed for total metals?	N
6. Is one equipment blank prepared each day of ground-water sampling?	N

	Y/N
V. Review of Chain-of-Custody Procedures	
A. Sample Labels	
1. Are sample labels used?	N
2. Do they provide the following information:	N
a. Sample identification number?	
b. Name of collector?	N
c. Date and time of collection?	N
d. Place of collection?	N
e. Parameter(s) requested and preservitives used?	N
3. Do they remain legible even if wet?	N
B. Sample Seals	
1. Are sample seals placed on those containers to ensure samples are not altered?	N
C. Field Logbook	
1. Is a field logbook maintained?	N
2. Does it document the following:	
a. Purpose of sampling (e.g., detection or assesment)?	N
b. Location of well(s)?	N
c. Total depth of each well?	N
d. Static water level depth and measurement technique?	N
e. Presence of immiscible layers and detection method?	N
f. Collection method for immiscible layers and sample identification numbers?	N
g. Well evacuation procedures?	N
h. Sample withdrawal procedure?	N
i. Date and time of collection?	N
j. Well sampling sequence?	N
k. Types of sample containers and sample identification number(s)?	N
l. Preservative(s) used?	N
m. Parameters requested?	N
n. Field analysis data and method(s)?	N
o. Sample distribution and transporter?	N
p. Field observations?	N

	Y/N
—Unusual well recharge rates?	N
—Equipment malfunction(s)?	N
—Possible sample contamination?	N
—Sampling rate?	N
D. Chain-of-Custody Record 1. Is a chain-of-custody record included with each sample?	N
2. Does it document the following: a. Sample number?	N
b. Signature of collector?	N
c. Date and time of collection?	N
d. Sample type?	N
e. Station location?	N
f. Number of containers?	N
g. Parameters requested?	N
h. Signatures of persons involved in chain-of-custody?	N
i. Inclusive dates of custody?	N
E. Sample Analysis Request Sheet 1. Does a sample analysis request sheet accompany each sample?	N
2. Does the request sheet document the following: a. Name of person receiving the sample?	N
b. Date of sample receipt?	N
c. Duplicates?	N
d. Analysis to be performed?	N
IV. Review of Quality Assurance/Quality Control **A. Is the validity and reliability of the laboratory and field generated data ensured by a QA/QC program?**	N
B. Does the QA/QC program include: 1. Documentation of any deviation from approved procedures?	N

	Y/N
2. Documentation of analytical results for:	
a. Blanks?	N
b. Standards?	N
c. Duplicates?	N
d. Spiked samples?	N
e. Detectable limits for each parameter being analyzed?	N
C. Are approved statistical methods used?	N
D. Are QC samples used to correct data?	N
E. Are all data critically examined to ensure it has been properly calculated and reported?	N
VII. Surficial Well Inspection and Field Observation	
A. Are the wells adequately maintained?	Y
B. Are the monitoring wells protected and secure?	N
C. Do the wells have surveyed casing elevations?	Y
D. Are the ground-water samples turbid?	?
E. Have all physical characteristics of the site been noted in the inspector's field notes (i.e., surface waters, topography, surface features)?	Y
F. Has a site sketch been prepared by the field inspector with scale, north arrow, location(s) of buildings, location(s) of regulated units, locations of monitoring wells, and a rough depiction of the site drainage pattern?	Y

	Y/N
VIII. Conclusions	
A. Is the facilitycurrently operating under the correct monitoring progaram according to the statistical analyses performed by the current operator?	N
B. Does the ground-water monitoring system, as designed and operated, allow for detection or assessment of any possible ground-water contamination caused by the facility?	N
C. Does the sampling and analysis procedures permit the owner/operator to detect and, where possible, assess the nature and extent of a release of hazardous constituents to ground water from the monitored hazardous waste management facility?	N

Figure 4.3
Relationship of Technical Inadequacies to Ground-Water Performance Standards

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
1. Uppermost Aquifer must be correctly identified.	• failure to consider aquifers hydraulically interconnected to the uppermost aquifer.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• incorrect identification of certain formations as confining layers or aquitards.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to use test drilling and/or soil borings to characterize subsurface hydrogeology.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
2. Ground-water flow directions and rates must be properly determined.	• failure to use piezometers or wells to determine ground-water flow rates and directions (or failure to use a sufficient number of them).	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to consider temporal variations in water levels when establishing flow directions (e.g., seasonal variations, short-term fluctuations due to pumping).	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to assess significance of vertical gradients when evaluating flow rates and directions.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to use standard/consistent benchmarks when establishing water level elevations.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure of the owner/operator (o/o) to consider the effect of local withdrawal wells on ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to obtain sufficient water level measurements.	§265.90(a) §265.91(a)(1)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
3. Background wells must be located so as to yield samples that are not affected by the facility.	• failure of the o/o to consider the effect of local withdrawal wells on ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to obtain sufficient water level measurements.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to consider flow path of dense immiscibles in establishing upgradient well locations.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to consider seasonal fluctuations in ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure to install wells hydraulically upgradient, except in cases where upgradient water quality is affected by the facility (e.g., migration of dense immiscibles in the upgradient direction, mounding water beneath the facility).	§265.90(a) §265.91(a)(1)
	• failure of the o/o to adequately characterize subsurface hydrogeology.	§265.90(a) §265.91(a)(1)
	• wells intersect only ground water that flows around facility.	§265.90(a) §265.91(a)(1)
4. Background wells must be constructed so as to yield samples that are representative of in-situ ground-water quality.	• wells constructed of materials that may release or absorb constituents of concern	§265.90(a) §265.91(a)
	• wells improperly sealed—contamination of sample is a concern.	§265.90(a) §265.91(a), (c)
	• nested or multiple screen wells are used and it cannot be demonstrated that there has been no movement of ground water between strata.	§265.90(a) §265.91(a)(1, 2)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
4. Background wells must be constructed so as to yield samples that are representative of in-situ ground-water quality. (Continued)	• improper drilling methods were used, possibly contaminating the formation.	§265.90(a) §265.91(a)
	• well intake packed with materials that may contaminate sample.	§265.90(a) §265.91(a), (c)
	• well screens used are of an inappropriate length.	§265.90(a) §265.91(a)(1, 2)
	• wells developed using water other than formation water.	§265.90(a) §265.91(a)
	• improper well development yielding samples with suspended sediments that may bias chemical analysis.	§265.90(a) §265.91(a)
	• use of drilling muds or nonformation water during well construction that can bias results of samples collected from wells.	§265.90(a) §265.91(a)
5. Downgradient monitoring wells must be located so as to ensure the immediate detection of any contamination migrating from the facility.	• wells not placed immediately adjacent to waste management area.	§265.90(a) §265.91(a)(2)
	• failure of o/o to consider potential pathways for dense immiscibles.	§265.90(a) §265.91(a)(2)
	• inadequate vertical distribution of wells in thick or heavily stratified aquifer.	§265.90(a) §265.91(a)(2)
	• inadequate horizontal distribution of wells in aquifers of varying hydraulic conductivity.	§265.90(a) §265.91(a)(2)
	• likely pathways of contamination (e.g., buried streams channels, fractures, areas of high permeability) are not intersected by wells.	§265.90(a) §265.91(a)(2)
	• well network covers uppermost but not interconnected aquifers.	§265.90(a) §265.91(a)(2)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
6. Downgradient monitoring wells must be constructed so as to yield samples that are representative of in-situ ground-water quality.	See No. 4 above.	
7. Samples from background and downgradient wells must be properly collected and analyzed.	• failure to evacuate stagnant water from the well before sampling.	§265.90(a), §265.92(a) §265.93(d)(4) §2705.14(c)(4)
	• failure to sample wells within a reasonable amount of time after well evacuation.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper decisions regarding filtering or non-filtering of samples prior to analysis (e.g., use of filtration on samples to be analyzed for volatile organics).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• use of an inappropriate sampling device.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• use of improper sample preservation techniques.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
7. Samples from background and downgradient wells must be properly collected and analyzed. (Continued)	• samples collected with a device that is constructed of materials that interfere with sample integrity.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• samples collected with a non-dedicated sampling device that is not cleaned between sampling events.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper use of a sampling device such that sample quality is affected (e.g., degassing of sample caused by agitation of bailer).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper handling of samples (e.g., failure to eliminate headspace from containers of samples to be analyzed for volatiles).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure of the sampling plan to establish procedures for sampling immiscibles (i.e., "floaters" and "sinkers").	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to follow appropriate QA/QC procedures.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to ensure sample integrity through the use of proper chain-of-custody procedures.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to demonstrate suitability of methods used for sample analysis (other than those specified in SW-846).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to perform analysis in the field on unstable parameters or constituents (e.g., pH, Eh, specific conductance, alkalinity, dissolved oxygen).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
7. Samples from background and downgradient wells must be properly collected and analyzed. (Continued)	• use of sample containers that may interfere with sample quality (e.g., synthetic containers used with volatile samples).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to make proper use of sample blanks.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

Appendix B (Landfill Assessment Report)

AGES Applied Geotechnical and Environmental Service Corp.
Valley Forge, PA (610) 666-7404 FAX (610) 666-1350

June 18,1998

Mr. Bill Miller
Pennsylvania Department of Environmental Protection
Southeast Regional Office
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428

Re: Administrative Order
Against Boyertown Sanitary Disposal Company, Inc.
and Mr. Warren K. Frame
AGES Project No. 48004.01
CO061898.01

Dear Mr. Miller:

This letter report summarizes existing site conditions and recommendations for corrective action for the leachate management, gas management and groundwater systems at the Boyertown Landfill situated in Douglass Township, Montgomery County, Pennsylvania. This report is based on the results of a site inspection on May 7, 1998.

This evaluation was done under authorization of Mr. Warren Frame, Boyertown Sanitary Disposal Company (BSD), in accordance with a PA Department of Environmental Protection Administrative Order, dated March 1998.

Site Observations

The following observations were made:

LEACHATE MANAGEMENT SYSTEM - Components evaluated include Effluent Pump House, Air Stripper, Leachate Treatment Plant, Clarifier and Fixed Film Reactor, Effluent Lagoons A & B, Raw Leachate Lagoon and Manholes.

- **Effluent Pump House**

  The effluent pumps which draw treated effluent from lagoons A & B are not operational. BSD currently uses a portable pump to discharge treated effluent from lagoons to BMMA sewer. Mr. Frame informed AGES that the portable pump has been effective and pumps at a rate of thirty (30) gallons a minute.

- **Air Stripper**

  Was in good condition at time of site inspection. The air blower unit was operational and leachate was being processed.

- **Leachate Treatment Plant**

  Leachate was being processed at time of inspection. All original plant equipment was in place and operating as designed. Leachate piping and flow patterns were normal. The plant equipment was clean and well maintained. There were no odors detected in the plant.

- **Clarifier and Fixed Film Reactor**

  Was in good condition and operational at time of site inspection. The flow rate of raw Leachate though the system was constant and tanks were not overloaded.

- **Effluent Lagoons A&B**

Patches made

Both hypolon liners are in need of repair. Several holes were observed on the top edge of both liners. Patches were noted, with fish mouth type gaps at the edge of the patch.

The liner pipe boots, installed around the 3" effluent return lines, are in poor condition.

Lagoon A has water trapped in between the secondary and primary liners.

- **Raw Leachate Lagoon**

  The liner is generally in good condition. However, several holes were observed along the liner's upper edge.

- **Manholes**

  All manholes appear to be functioning properly with the exception of manhole #5. Manhole #5 is filled with concrete. This apparently was done to eliminate a leachate leak into an adjacent stormwater swale. Raw leachate is transferred by pump at times of

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high flow or by gravity at times of low flow from MH #6 to the lagoon. All other manholes are operational.

GROUNDWATER MONITORING SYSTEM - The site groundwater monitoring system is operational. Groundwater monitoring wells are painted, numbered and have locked lid systems.

GAS MANAGEMENT SYSTEM - The gas management system is in place but not operational. The metal building which houses the gas burner and blower unit has deteriorated and collapsed. The burner itself still discharges gas when its flow control valve is opened. The electricity has been turned off to the blower unit and auto ignitor.

OIL CONTAMINATED SOIL - The soil contaminated with #2 fuel oil, approximately 42 cy., was placed on top of a larger soil stockpile behind Waste Management's trailer storage area (western side of the property). The soil has been disked multiple times for aeration. The soil had been graded and seeded. There was no visible sign of staining or standing oil.

LEACHATE RECIRCULATING TRENCHES - Mr. Frame informed AGES that in the fall of 1995 he excavated two trenches on the top of the landfill to recirculate leachate. On November 5, 1997 BSD backfilled the two (2) trenches on top of the landfill. This operation took approximately one (1) week to complete.

The western trench measured approximately 26' long and 6' wide x 5' deep.

The eastern trench measured approximately 17' long x 6' wide x 5' deep.

The trenches were backfilled in the following sequence:

Both trenches were cleaned and their bottoms compacted. On November 6, 1997 waste was placed in the trenches in one (1) foot lifts and compacted until the waste blended with the existing waste grade. New cover soil and clay was trucked into the site. The trenches were then reconstructed as per the closure plan. The new soil layers consisted of one (1) foot of subsoil (compacted), two (2) feet of clay (compacted) and one (1) foot of topsoil. The two (2) disturbed areas were then graded and seeded. Soil placement photographs and soil delivery slips are presented in **Appendix A.**

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After completion of backfilling there was excess soil intermixed with a small amount of municipal waste (approximately 63 cy. total). This blend of materials was stockpiled north of Waste Management's Recycling Transfer Station on the west side of the property.

RAW LEACHATE TESTING - Samples are taken from the raw leachate lagoon at least once per year as per Berks - Montgomery Municipal Authority permit requirements. Historical raw leachate data is presented in **Appendix B**.

Recommendations

Leachate Management System which includes Effluent Pump House, Air Striper, Leachate Treatment Plant, Clarifier and Fixed Film Reactor, Effluent Lagoons A & B, Raw Leachate Lagoon and Manholes.

- **Effluent Pump House** - No action necessary. Although the effluent pumps are not operational the portable pump system is adequate.

- **Air Stripper** - No action necessary.

- **Leachate Treatment Plant** - No action necessary.

- **Clarifier and Fixed Film Reactor** - No action necessary.

- **Effluent Lagoons A & B** - All holes and tears in the primary hypolon liner should be repaired. Previously patched areas of the liners with fish mouth edges should be repaired.

  The worn pipe boots around both of the 3" effluent return lines should be repaired or replaced. Due to the heavy wear of the primary liners where the effluent from the discharge pipes strikes the liner surface, an additional piece of liner, approximately 2'x3' in size, should be installed to act as a wearing surface.

  After repairs are made to the primary liner in lagoon A, the detection zone (12" sand layer between the primary and secondary liners) should be pumped to remove all trapped water. The water can be pumped out to lagoon A via the 4" PVC witness detection pipe located adjacent to the effluent return line.

- **Raw Leachate Lagoon** - Repairs should be made to the primary liners top two (2) feet where necessary. The small holes which were observed in the liner were most likely made by the lawn tractor tires. To avoid damaging the liner, vehicle tires should remain off the liner.

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- **Manholes** - No action necessary.

GROUNDWATER MONITORING SYSTEM - The Form 19, "Municipal Waste Landfill Quarterly and Annual Water Quality Analyses" sampling will be resumed. The first quarter will be an annual event.

GAS MANAGEMENT SYSTEM - The gas burner system will be made operational after the old building is removed.

LEACHATE RECIRCULATING TRENCHES - No action necessary. The trenches have been backfilled to existing grade as per the closure plan. Soil placement photographs and soil delivery slips are presented in **Appendix A**

The left over soil and municipal waste from the trench excavation will be spread out and hand picked to remove all incidental waste. The waste will then be properly disposed off site. The soil will be retained for miscellaneous grading.

OIL CONTAMINATED SOIL - The contaminated soil will be sampled and analyzed and appropriate action taken if measured TPH levels are found to be above current PADEP action levels.

RAW LEACHATE TESTING - No action necessary. The frequency of raw and treated leachate testing is consistent with requirements of BMMA's permit. Historical Raw Leachate Data is presented in **Appendix B**.

Schedules

Effluent lagoons A and B and raw Leachate Lagoon - Anticipated time to complete patching and repairs to the primary lagoons is 45 days after PADEP approval of this plan.

Ground Water Monitoring - First quarter sampling will begin after PADEP approval of this plan.

Gas Management - One (1) month to clean-up building after PADEP approval of this plan.

Leachate Recirculating Trenches - Anticipated time to complete sorting of municipal waste from the soil is two (2) months after PADEP approval of this plan.

Oil Contaminated Soil - One (1) month to sample soil, receive analytical data, review data and present results to PADEP. After review and acceptance by PADEP, any additional required actions should take approximately two (2) months.

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Limitations

The observations, conclusions and recommendations contained herein are based solely on our review of the information obtained from Mr. Warren Frame and observed conditions at the time of the on-site evaluation. If information is obtained by any party connected with this project which could affect the contents of this report, AGES should be so advised immediately.

Please call us if you have any questions.

Respectfully submitted,
AGES Corporation

Richard L. Bodge
Environmental Specialist

A. A. Fungaroli, Ph.D., P.E.
President

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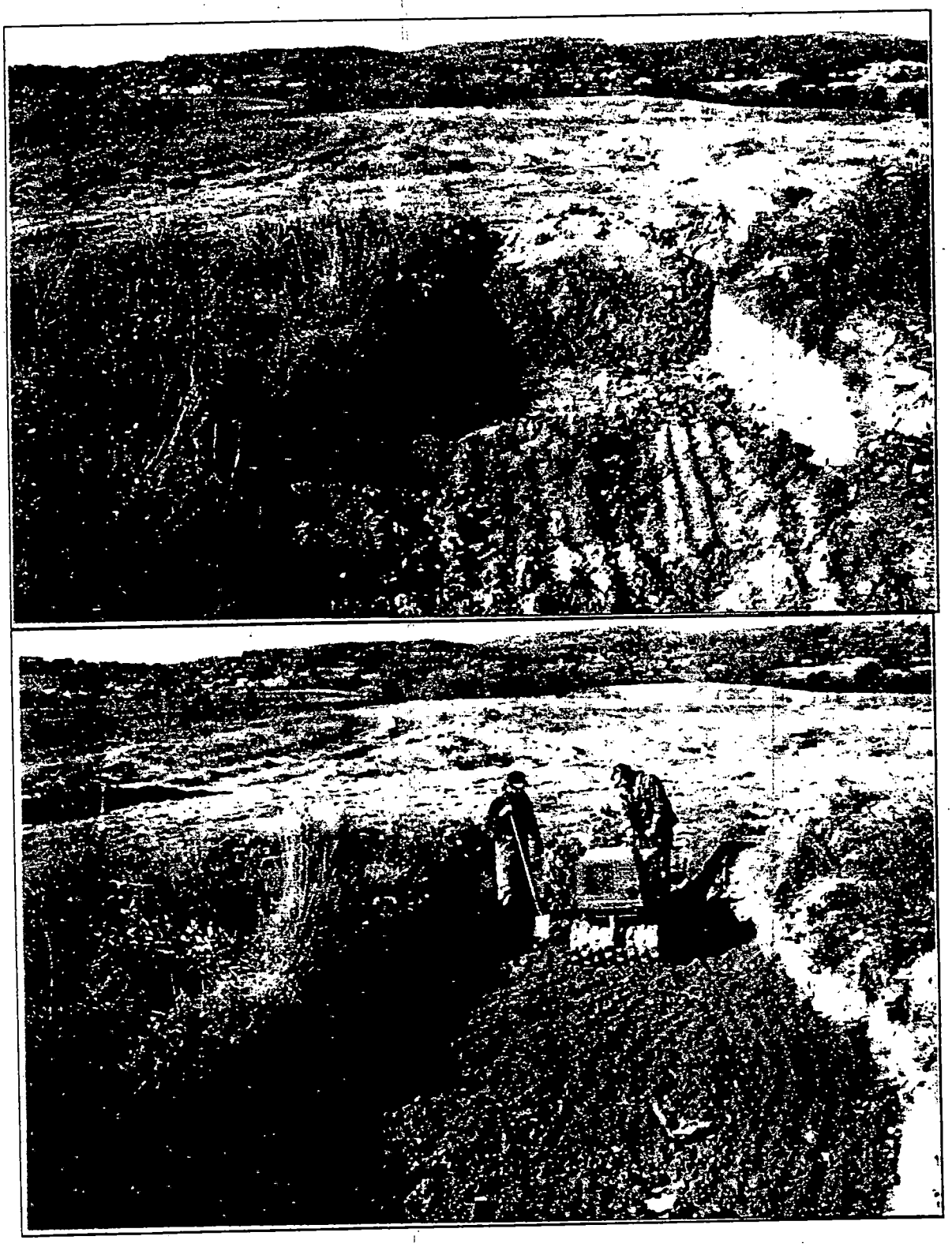
APPENDIX A

Leachate Recirculating Trench Reconstruction (Photographs and Soil Delivery Slips)

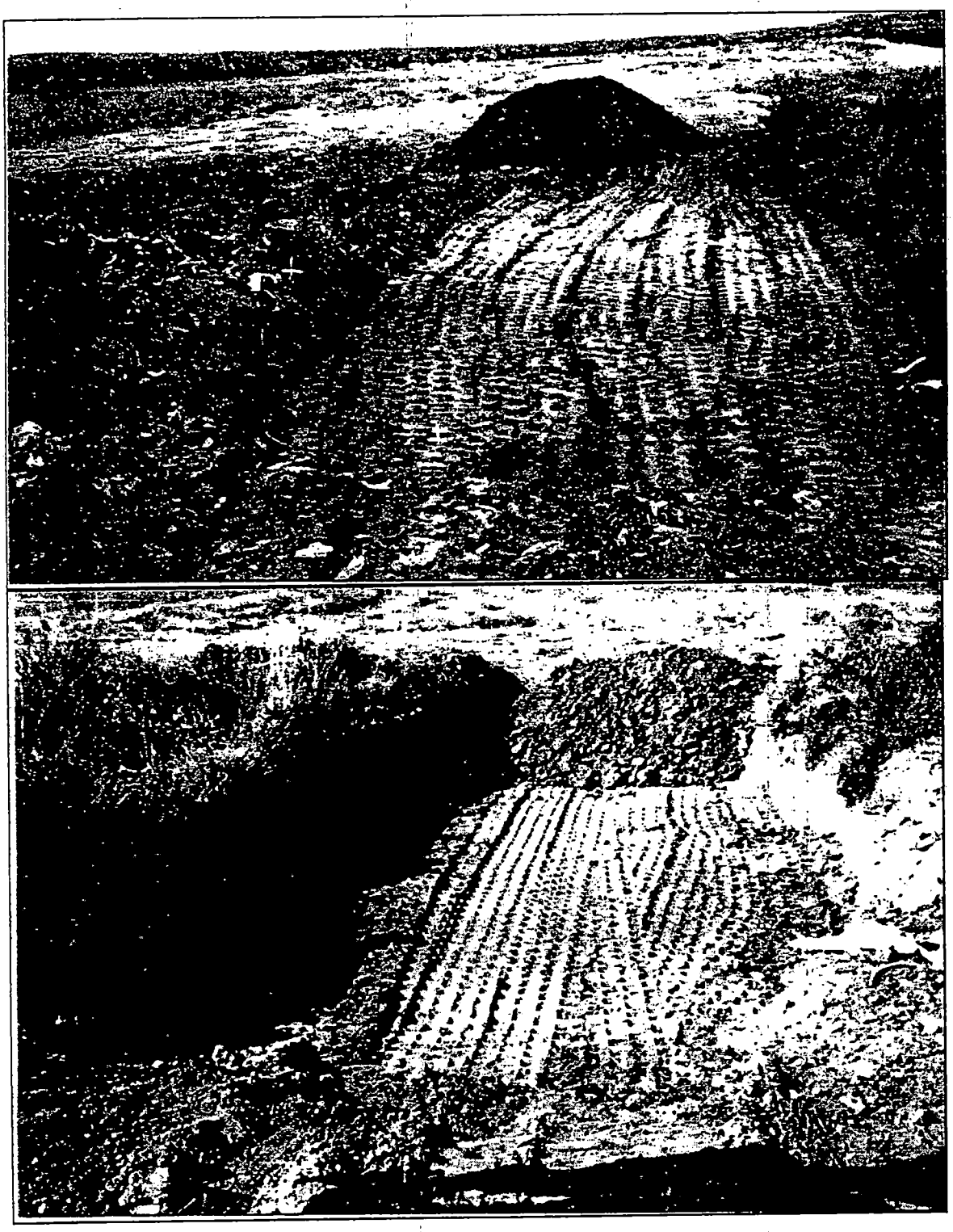
1. Backfilling trench with municipal waste and soil blend.
2. Backfilling with subbase soil.

Boyertown Landfill
Ages Project No. 48004.01



1. Backfilling trench with clay.
2. Compaction of clay.

Boyertown Landfill
AGES Project No. 48004.01



Placement of top soil.

P.O. Box 297
Bechtelsville, Pa 19505
phone (610) 367-2011
fax (610) 367-8613

33 School is Open

Watch the buses

ALL TRUCKS MUST TARP

TICKET #738232

DATE 11/06/97

Shipped to:

CUSTOMER CASHC
CASH CONTRACTOR

TRUCK KL06 DAVE KELIUS
JOB CASH4A
PROJECT No. 4A
PROJECT NAME THUR/CONT/HAUL

	lbs.		kgs.
GROSS WEIGHT	69400		31480
TARE WEIGHT	24150	S	10954
NET WEIGHT	45250		41051
NET TONS	22.62		20.53
MATERIAL CODE			188
MATERIAL PRICE			$5.05/ton
HAUL RATE			$0.00/ton
HAUL CHARGE			$52.00

	Loads	Tons	MG
DAILY	1	22.62	20.52
TOTAL	1	22.62	20.53

TIME IN 07:48:55 TIME OUT 07:48:55
OPERATOR GARY
MATERIAL NAME Subase Soil

MATERIAL CHGE.	114.26
NET CHARGE	$166.26
0.00% SALES TAX	$0.00
TOTAL CHARGE	$166.26
CASH TENDERED	$166.26

AME
#500.63
CR #1996

The signature below certifies that this material meets the applicable contract specifications and requirements.

Customer

Weighmaster Driver

Terms of Purchase Agreement:
An interest charge of 1.5% per month(19.6% APR) will be added to all balances over 30 d
Purchaser agrees to maintain a suitable roadway for seller's trucks from street pavement of delivery. Seller will not be responsible for any damage caused by seller's trucks after street pavement. Seller will not be responsible for spreading material.

P.O. Box 297
Bechtelsville, Pa 19505
phone (610) 367-2011
fax (610) 367-8613

33 School is Open

Watch the buses

ALL TRUCKS MUST TARP

TICKET #738258

DATE 11/06/97

Shipped to:

CUSTOMER CASHC
CASH CONTRACTOR

TRUCK KL06 DAVE KELIUS
JOB CASH4A
PROJECT No. 4A
PROJECT NAME THUR/CONT/HAUL

	lbs.		kgs.
GROSS WEIGHT	68900		31253
TARE WEIGHT	24150	S	10954
NET WEIGHT	44750		40597
NET TONS	22.38		20.30
MATERIAL CODE			188
MATERIAL PRICE			$5.05/ton
HAUL RATE			$0.00/ton
HAUL CHARGE			$52.00

	Loads	Tons	MG
DAILY	2	45.00	40.82
TOTAL	2	45.00	40.82

TIME IN 08:42:55 TIME OUT 08:42:55
OPERATOR GARY
MATERIAL NAME Subase Soil

MATERIAL CHGE.	112.99
NET CHARGE	$164.99
0.00% SALES TAX	$0.00
TOTAL CHARGE	$164.99
CASH TENDERED	$164.99

AME
#500.63
CR #1996

The signature below certifies that this material meets the applicable contract specifications and requirements.

Terms of Purchase Agreement:
An interest charge of 1.5% per month(19.6% APR) will be added to all balances over 30
Purchaser agrees to maintain a suitable roadway for seller's trucks from street paveme

Martin Inc
Stone Quarries
P.O. Box 297
Bechtelsville, Pa 19505
phone (610) 367-2011
fax (610) 367-8613

33 School is Open

Watch the buses

ALL TRUCKS MUST TARP

TICKET #738278

DATE 11/06/97

Shipped to:

CUSTOMER CASHC
CASH CONTRACTOR

TRUCK KL06 DAVE KELIUS
JOB CASH4A
PROJECT No. 4A
PROJECT NAME THUR/CONT/HAUL

	lbs.		kgs.
GROSS WEIGHT	70400		31933
TARE WEIGHT	24150	S	10954
NET WEIGHT	46250		41958
NET TONS	23.12		20.98
MATERIAL CODE			188
MATERIAL PRICE			$5.05/ton
HAUL RATE			$0.00/ton
HAUL CHARGE			$52.00

	Loads	Tons	MG
DAILY	3	68.12	61.80
TOTAL	3	68.12	61.80

TIME IN 09:28:48 TIME OUT 09:28:48
OPERATOR GARY
MATERIAL NAME Subase Soil

MATERIAL CHGE.	116.78
NET CHARGE	$168.78
0.00% SALES TAX	$0.00
TOTAL CHARGE	$168.78
CASH TENDERED	$168.78

PMC
#560.63
Ck # 1996

The signature below certifies that this material meets the applicable contract specifications and requirements.

Customer

Weighmaster

Driver

Terms of Purchase Agreement:
An interest charge of 1.5% per month(19.6% APR) will be added to all balances over 30 days c
Purchaser agrees to maintain a suitable roadway for seller's trucks from street pavement to po
of delivery. Seller will not be responsible for any damage caused by seller's trucks after leavi
street pavement. Seller will not be responsible for spreading material.

APPENDIX B

Raw Leachate Analytical Data

WASTEX
INDUSTRIES, INC.

28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

March 21, 1995

To: BOYERTOWN SANITARY DISPOSAL
200 MERKEL ROAD
GILBERTSVILLE PA 19525
ATTN: JOHN KESSLER
458-5300 QUARTERLY

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AB43739
Sampling date: 03/13
Sample collector: KEN MOCK
Sample collection date: 03/13/95 Time: 09:50
Lab submittal date: 03/13/95 Time: 11:00
Received by: KM Validated by: SLG

Client's Code: BODISPOS
Client's Description: RAW LEACHATE

Parameter: pH
Method reference: 150.1
Result: 7.4 pH Units
Date started: 03/13/95
Time started: 12:37
MDL or sensitivity: 0.01
Date finished: 03/13/95
Analyst: WB

Parameter: BOD, Carbonaceous
Method reference: 405.2
Result: 39 mg/l
Date started: 03/13/95
Time started:
MDL or sensitivity: 5.0
Date finished: 03/18/95
Analyst: AD

Parameter: Solids, Total Dissolved
Method reference: 160.1
Result: 787 mg/l
Date started: 03/14/95
Time started:
MDL or sensitivity: 5.0
Date finished: 03/15/95
Analyst: WB

Parameter: Nitrogen, Ammonia
Method reference: 350.3
Result: 59.7 mg/l
Date started: 03/16/95
Time started:
MDL or sensitivity: 0.5
Date finished: 03/16/95
Analyst: AD

Parameter: Phosphate, Total, as P
Method reference: 365.3
Result: 2.22 mg/l
Date started: 03/14/95
Time started: 10:12
MDL or sensitivity: 0.05
Date finished: 03/14/95
Analyst: WB

WASTEX
INDUSTRIES, INC.
28 S. Hanover Street
Pottstown, PA 19464
610/327-0680

~~BOYERTOWN SANITARY DISPOSAL Sample I.D. A348799 (continued)~~

Parameter: Chromium, Hexavalent
Method reference: 3078
Result: <0.01
Date started: 03/13/95
Time started: 13:20
Unit: mg/l
MDL or sensitivity: 0.01
Date finished: 03/13/95
Analyst: WB

Parameter: Nickel
Method reference: 200.7
Result: 0.02 mg/l
Date started: 03/17/95
Time started:
MDL or sensitivity: 0.01
Date finished: 03/17/95
Analyst: BWB

Parameter: Copper
Method reference: 200.7
Result: <0.010
Date started: 03/17/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.010
Date finished: 03/17/95
Analyst: BWB

Parameter: Iron
Method reference: 200.7
Result: 8.24 mg/l
Date started: 03/17/95
Time started:
MDL or sensitivity: 0.10
Date finished: 03/17/95
Analyst: BWB

Parameter: Phenolics, Total
Method reference: 420.1
Result: <0.04
Date started: 03/16/95
Time started: 10:54
Unit: mg/l
MDL or sensitivity: 0.04
Date finished: 03/16/95
Analyst: WB

Parameter: Color
Method reference: 110.2
Result: 120 Color Units
Date started: 03/13/95
Time started: 12:52
MDL or sensitivity: 5.0
Date finished: 03/13/95
Analyst: WB

Parameter: Antimony by Graphite Furnace
Method reference: 204.2
Result: <8.0
Date started: 03/17/95
Time started:
Unit: ug/l
MDL or sensitivity: 8.0
Date finished: 03/17/95
Analyst: BWB

Parameter: Arsenic by Graphite Furnace
Method reference: 206.2
Result: 6.0 ug/l
Date started: 03/16/95
Time started: 15:17
MDL or sensitivity: 5.0
Date finished: 03/16/95
Analyst: BWB

Parameter: Barium
Method reference: 200.7
Result: 0.693 mg/l
Date started: 03/17/95
Time started:
MDL or sensitivity: 0.010
Date finished: 03/17/95
Analyst: BWB

WASTEX
INDUSTRIES, INC.

28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

~~SOUTHTOWN SANITARY DISPOSAL~~ ~~Sample I.D. A9407B5 (continued)~~

March 21, 1995

Parameter: Lead by Graphite Furnace
Method reference: 239.2
Result: <1.0
Date started: 03/17/95
Time started:
Unit: ug/l
MDL or sensitivity: 1.0
Date finished: 03/17/95
Analyst: BWB

Parameter: Cadmium
Method reference: 200.7
Result: <0.003
Date started: 03/17/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.003
Date finished: 03/17/95
Analyst: BWB

Parameter: Cyanide, Total
Method reference: 335.2
Result: <0.01
Date started: 03/13/95
Time started: 11:07
Unit: mg/l
MDL or sensitivity: 0.01
Date finished: 03/15/95
Analyst: AD

Parameter: Fluoride
Method reference: 340.2
Result: <0.50
Date started: 03/14/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.5
Date finished: 03/14/95
Analyst: AD

Parameter: Mercury
Method reference: 245.1
Result: <0.0002
Date started: 03/13/95
Time started: 11:20
Unit: mg/l
MDL or sensitivity: 0.0002
Date finished: 03/14/95
Analyst: LAW

Parameter: Selenium by Graphite Furnace
Method reference: 270.2
Result: <5.0
Date started: 03/16/95
Time started: 17:21
Unit: ug/l
MDL or sensitivity: 5.0
Date finished: 03/16/95
Analyst: BWB

Parameter: Silver
Method reference: 200.7
Result: <0.01
Date started: 03/17/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.01
Date finished: 03/17/95
Analyst: BWB

Parameter: Zinc
Method reference: 200.7
Result: 0.011 mg/l
Date started: 03/17/95
Time started:
MDL or sensitivity: 0.005
Date finished: 03/17/95
Analyst: BWB

Parameter: Grease & Oil
Method reference: 413.2
Result: <0.90
Date started: 03/15/95
Time started: 15:25
Unit: mg/l
MDL or sensitivity: 0.90
Date finished: 03/15/95
Analyst: PER

WASTEX
INDUSTRIES, INC.

28 S. Hanover Street
Pottstown, PA 19464
610/327-0660

~~BOYERTOWN SANITARY DISPOSAL Sample I.D. AB48788 (continued)~~

March 21, 1995

Parameter: Digestion for Metals Analysis
Method reference: 3050 Unit:
Result: Completed MDL or sensitivity:
Date started: 03/15/95 Date finished: 03/15/95
Time started: 08:30 Analyst: LAW

Parameter: Volatiles by GC/MS
Method reference: 624 Unit:
Result: SEE ATTACHED MDL or sensitivity:
Date started: 03/21/95 Date finished: 03/21/95
Time started: Analyst: SS

Parameter: Semivolatiles by GC/MS
Method reference: 625 Unit:
Result: SEE ATTACEHD MDL or sensitivity:
Date started: 03/21/95 Date finished: 03/21/95
Time started: Analyst: SS

Sample comments:

RAW LEACHATE GRAB

If there are any questions regarding this data, please call.

Released By

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL

Sample Ident: RAW LEACHATE

Sample Matrix: WATER

Lab Sample No. : AB43739

Lab File ID : >F5503

Date Analyzed : 03/21/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND			Q
107-02-8	Acrolein		50	U
107-13-1	Acrylonitrile		50	U
74-87-3	Chloromethane		10	U
74-83-9	Bromomethane		10	U
75-01-4	Vinyl Chloride		5	U
75-00-3	Chloroethane		10	U
75-09-2	Methylene Chloride		2	U
75-69-4	Trichlorofluoromethane		5	U
75-35-4	1,1-Dichloroethene		2	U
75-34-3	1,1-Dichloroethane		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
67-66-3	Chloroform		5	U
107-06-2	1,2-Dichloroethane		2	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		2	U
75-27-4	Bromodichloromethane		1	U
78-87-5	1,2-Dichloropropane		1	U
10061-01-5	cis-1,3-Dichloropropene		1	U
79-01-6	Trichloroethene		1	U
124-48-1	Dibromochloromethane		5	U
79-00-5	1,1,2-Trichloroethane		3	U
71-43-2	Benzene		1	U
10061-02-6	trans-1,3-Dichloropropene		1	U
110-75-8	2-Chloroethylvinyl ether		20	U
75-25-2	Bromoform		4	U
127-18-4	Tetrachloroethene		1	U
79-34-5	1,1,2,2-Tetrachloroethane		2	U
108-88-3	Toluene		5	U
108-90-7	Chlorobenzene		4	U
100-41-4	Ethylbenzene		5	U
1330-20-7	o-Xylene		5	U
1330-20-7	m/p-Xylenes		5	U
541-73-1	1,3-Dichlorobenzene		4.1	J
95-50-1	1,2-Dichlorobenzene		5	U
106-46-7	1,4-Dichlorobenzene		5	U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL

Sample Ident: RAW LEACHATE

Sample Matrix: WATER

Lab Sample No. : AB43739

Lab File ID : >AF342

Date Analyzed : 03/21/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND		Q
62-75-9	N-Nitrosodimethylamine	5	U
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	3.2	J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
106-44-5	bis(2-Chloroisopropyl)ether	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
121-14-2	2,4-Dinitrotoluene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL

Sample Ident: RAW LEACHATE

Sample Matrix: WATER

Lab Sample No. : AB43739

Lab File ID : >AF342

Date Analyzed : 03/21/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND			Q
86-30-6	N-Nitrosodiphenylamine		5	U
122-66-7	1,2-Diphenylhydrazine		5	U
101-55-3	4-Bromophenyl-phenylether		5	U
118-74-1	Hexachlorobenzene		25	U
87-86-5	Pentachlorophenol		5	U
85-01-8	Phenanthrene		5	U
120-12-7	Anthracene		5	U
84-74-2	Di-n-butylphthalate		5	U
206-44-0	Fluoranthene		25	U
92-87-5	Benzidine		5	U
129-00-0	Pyrene		5	U
85-68-7	Butylbenzylphthalate		10	U
91-94-1	3,3'-Dichlorobenzidine		5	U
56-55-3	Benzo(a)anthracene		5	U
218-01-9	Chrysene		5	U
117-81-7	bis(2-Ethylhexyl)phthalate		5	U
117-84-0	Di-n-octylphthalate		5	U
205-99-2	Benzo(b)fluoranthene		5	U
207-08-9	Benzo(k)fluoranthene		5	U
50-32-8	Benzo(a)pyrene		5	U
193-39-5	Indeno(1,2,3-cd)pyrene		5	U
53-70-3	Dibenz(a,h)anthracene		5	U
191-24-2	Benzo(g,h,i)perylene		5	U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

SHIP TO
Wastex Industries, Inc.
28 South Hanover Street
Pottstown, PA 19464
(610) 327-0880
FAX 327-9608
Attn.

WASTEX INDUSTRIES, INC.

CHAIN OF CUSTODY RECORD

Client Name
Address
Phone FAX
Attn.

WASTEX DOES NOT ACCEPT LIABILITY FOR SAMPLES WHICH ARE DAMAGED OR LOST WHILE IN THE POSSESSION OF INDEPENDENT COURIERS

TURNAROUND (INDICATE WORKING DAYS, CONFIRM WITH LAB) 1 2 3 5 10 OTHER
DELIVERABLES (PLEASE CIRCLE): TIER I TIER II/ECRA BUST RESULTS ONLY OTHER

PROJECT NO.
PROJECT NAME
CLIENT NAME: Boyertown Sanitary Disposal
PROJECT MGR. (PHONE NO.)

SAMPLE I.D. NO.	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	GC/MS BASE NEUTRAL/ACID	GC/MS VOLATILES	TCLP METALS/ORGANICS	PESTICIDES + HERBICIDES	TOC/TOX/BOD/COD	pH — CORROSIVITY	FLASHPOINT — IGNITABILITY	CYANIDE REACTIVITY	METALS	BETX	PCBs	PETROLEUM HYDROCARBONS	TSS/TDS	OTHER	ADDITIONAL REQUIREMENTS
	3-13	940		X	Basement Bin	9	X	X			X	X		X	X	X	X		X	X	[illegible]
		930		X	Raw Leachate	9	X	X			X	X		X	X	X	X		X	X	
SHIPPED VIA:					TOTAL			HCL						NAOH	HNO3	HCL		H2SO4			CIRCLE IF SAMPLE IS PRESERVED

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
(SIGNATURE) [illegible signature]	3-13-95 10:00	(SIGNATURE)	
PRINTED NAME Kenneth A. [illegible]		PRINTED NAME	
(SIGNATURE)		(SIGNATURE)	
PRINTED NAME		PRINTED NAME	
(SIGNATURE) [illegible signature]	3-13-95 11:00	RECEIVED FOR LABORATORY BY (SIGNATURE) [illegible signature]	3/13 [illegible]
PRINTED NAME Kenneth A. [illegible]		PRINTED NAME [illegible]	
SAMPLER (SIGNATURE) [illegible signature]		SAMPLER'S NAME (PRINT) Kenneth A. [illegible]	

REMARKS

Client Retain... ink Copy Only

WASTEX
INDUSTRIES, INC.

28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

August 15, 1995

To: BOYERTOWN SANITARY DISPOSAL
300 MERKEL ROAD
GILBERTSVILLE PA 19525
ATTN: JOHN KESSLER
458-5300 QUARTERLY

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AB48988 Client's Code: BODISPOS
Sampling date: 08/07 Client's Description: RAW LEACHATE
Sample collector: KEN MOCK
Sample collection date: 08/07/95 Time: 09:00
Lab submittal date: 08/07/95 Time: 11:30
Received by: KM Validated by: SLG

Parameter: pH
Method reference: 150.1
Result: 8.1 pH Units MDL or sensitivity: 0.01
Date started: 08/07/95 Date finished: 08/07/95
Time started: Analyst: AD

Parameter: BOD - 5 Day
Method reference: 405.1
Result: 17 mg/l MDL or sensitivity: 5.0
Date started: 08/09/95 Date finished: 08/14/95
Time started: Analyst: AD

Parameter: Solids, Total Dissolved
Method reference: 160.1
Result: 2015 mg/l MDL or sensitivity: 5.0
Date started: 08/10/95 Date finished: 08/11/95
Time started: Analyst: AD

Parameter: Nitrogen, Ammonia
Method reference: 350.3
Result: 78.7 mg/l MDL or sensitivity: 0.5
Date started: 08/14/95 Date finished: 08/14/95
Time started: Analyst: AD

Parameter: Phosphate, Total, as P
Method reference: 365.3
Result: 0.45 mg/l MDL or sensitivity: 0.05
Date started: 08/10/95 Date finished: 08/10/95
Time started: Analyst: TLH

WASTEX
INDUSTRIES, INC.
28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

Parameter: Chromium, Hexavalent
Method reference: 307B
Result: <0.03
Date started: 08/07/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.03
Date finished: 08/07/95
Analyst: AD

Parameter: Nickel
Method reference: 200.7
Result: 0.05 mg/l
Date started: 08/09/95
Time started:
MDL or sensitivity: 0.01
Date finished: 08/09/95
Analyst: BWB

Parameter: Copper
Method reference: 200.7
Result: <0.010
Date started: 08/09/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.010
Date finished: 08/09/95
Analyst: BWB

Parameter: Iron
Method reference: 200.7
Result: 3.40 mg/l
Date started: 08/09/95
Time started:
MDL or sensitivity: 0.10
Date finished: 08/09/95
Analyst: BWB

Parameter: Phenolics, Total
Method reference: 420.1
Result: <0.04
Date started: 08/14/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.04
Date finished: 08/14/95
Analyst: TLH

Parameter: Color
Method reference: 110.2
Result: 200 Color Units
Date started: 08/07/95
Time started:
MDL or sensitivity: 25.0
Date finished: 08/07/95
Analyst: AD

Parameter: Antimony by Graphite Furnace
Method reference: 204.2
Result: <8.0
Date started: 08/10/95
Time started:
Unit: ug/l
MDL or sensitivity: 8.0
Date finished: 08/10/95
Analyst: BWB

Parameter: Arsenic by Graphite Furnace
Method reference: 206.2
Result: 9.40 ug/l
Date started: 08/11/95
Time started:
MDL or sensitivity: 5.0
Date finished: 08/11/95
Analyst: BWB

Parameter: Barium
Method reference: 200.7
Result: 0.584 mg/l
Date started: 08/09/95
Time started:
MDL or sensitivity: 0.010
Date finished: 08/09/95
Analyst: BWB

WASTEX
INDUSTRIES, INC.
28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

Parameter: Lead by Graphite Furnace
Method reference: 239.2
Result: 5.56 ug/l
Date started: 08/09/95
Time started:
MDL or sensitivity: 1.0
Date finished: 08/09/95
Analyst: BWB

Parameter: Cadmium
Method reference: 200.7
Result: <0.003
Date started: 08/09/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.003
Date finished: 08/09/95
Analyst: BWB

Parameter: Cyanide, Total
Method reference: 335.2
Result: <0.01
Date started: 08/08/95
Time started: 13:09
Unit: mg/l
MDL or sensitivity: 0.01
Date finished: 08/08/95
Analyst: AD

Parameter: Fluoride
Method reference: 340.2
Result: <0.50
Date started: 08/10/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.5
Date finished: 08/10/95
Analyst: AD

Parameter: Mercury
Method reference: 245.1
Result: 0.0009 mg/l
Date started: 08/10/95
Time started: 10:50
MDL or sensitivity: 0.0002
Date finished: 08/10/95
Analyst: CMH

Parameter: Selenium by Graphite Furnace
Method reference: 270.2
Result: <5.0
Date started: 08/14/95
Time started:
Unit: ug/l
MDL or sensitivity: 5.0
Date finished: 08/14/95
Analyst: BWB

Parameter: Silver
Method reference: 200.7
Result: <0.01
Date started: 08/09/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.01
Date finished: 08/09/95
Analyst: BWB

Parameter: Zinc
Method reference: 200.7
Result: <0.005
Date started: 08/09/95
Time started:
Unit: mg/l
MDL or sensitivity: 0.005
Date finished: 08/09/95
Analyst: BWB

Parameter: Grease & Oil
Method reference: 413.2
Result: 1.40 mg/l
Date started: 08/08/95
Time started: 13:17
MDL or sensitivity: 0.90
Date finished: 08/08/95
Analyst:

WASTEX
INDUSTRIES, INC.
28 S. Hanover Street
Pottstown, PA 19464
610/327-0880

Parameter: Digestion for Metals Analysis
Method reference: 3050
Result: Completed
Date started: 08/09/95
Time started:
Unit:
MDL or sensitivity:
Date finished: 08/09/95
Analyst: BWB

Parameter: Volatiles by GC/MS
Method reference: 624
Result: SEE ATTACHED
Date started: 08/09/95
Time started:
Unit:
MDL or sensitivity:
Date finished: 08/09/95
Analyst: LM

Parameter: Semivolatiles by GC/MS
Method reference: 625
Result: SEE ATTACHED
Date started: 08/08/95
Time started:
Unit:
MDL or sensitivity:
Date finished: 08/08/95
Analyst: SS

Sample comments:

RAW LEACHATE GRAB

If there are any questions regarding this data, please call.

Released By

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL Lab Sample No. :AB48988

Sample Ident: RAW LEACHATE Lab File ID :>F6931

Sample Matrix: WATER Date Analyzed : 08/09/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND		Q
107-02-8	Acrolein		50 U
107-13-1	Acrylonitrile		50 U
74-87-3	Chloromethane		10 U
74-83-9	Bromomethane		10 U
75-01-4	Vinyl Chloride		5 U
75-00-3	Chloroethane		10 U
75-09-2	Methylene Chloride		2 U
75-69-4	Trichlorofluoromethane		5 U
75-35-4	1,1-Dichloroethene		2 U
75-34-3	1,1-Dichloroethane		5 U
156-60-5	trans-1,2-Dichloroethene		5 U
67-66-3	Chloroform		5 U
107-06-2	1,2-Dichloroethane		2 U
71-55-6	1,1,1-Trichloroethane		5 U
56-23-5	Carbon Tetrachloride		2 U
75-27-4	Bromodichloromethane		1 U
78-87-5	1,2-Dichloropropane		1 U
10061-01-5	cis-1,3-Dichloropropene		1 U
79-01-6	Trichloroethene		1 U
124-48-1	Dibromochloromethane		5 U
79-00-5	1,1,2-Trichloroethane		3 U
71-43-2	Benzene		1 U
10061-02-6	trans-1,3-Dichloropropene		1 U
110-75-8	2-Chloroethylvinyl ether		20 U
75-25-2	Bromoform		4 U
127-18-4	Tetrachloroethene		1 U
79-34-5	1,1,2,2-Tetrachloroethane		2 U
108-88-3	Toluene		5 U
108-90-7	Chlorobenzene		4 U
100-41-4	Ethylbenzene		5 U
1330-20-7	o-Xylene		5 U
1330-20-7	m/p-Xylenes		5 U
541-73-1	1,3-Dichlorobenzene		5 U
95-50-1	1,2-Dichlorobenzene		5 U
106-46-7	1,4-Dichlorobenzene		5 U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

SEMIVOLATILE ORGANICS[18] ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL Lab Sample No. : AB48988

Sample Ident: RAW LEACHATE Lab File ID : >AH202

Sample Matrix: WATER Date Analyzed : 08/08/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND		Q
62-75-9	N-Nitrosodimethylamine	5	U
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
106-44-5	bis(2-Chloroisopropyl)ether	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
91-58-7	2-Chloronaphthalene	5	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
121-14-2	2,4-Dinitrotoluene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: WASTEX INDUSTRIES, NJDEP Cert.# 77371

Project Name: BOYERTOWN SANITARY DISPOSAL — Lab Sample No. :AB48988

Sample Ident: RAW LEACHATE — Lab File ID : >AH202

Sample Matrix: WATER — Date Analyzed : 08/08/95

Dilution Factor: 1.00

CONCENTRATION UNITS: UG/L

CAS No.	COMPOUND			Q
86-30-6	N-Nitrosodiphenylamine		5	U
122-66-7	1,2-Diphenylhydrazine		5	U
101-55-3	4-Bromophenyl-phenylether		5	U
118-74-1	Hexachlorobenzene		5	U
87-86-5	Pentachlorophenol		25	U
85-01-8	Phenanthrene		5	U
120-12-7	Anthracene		5	U
84-74-2	Di-n-butylphthalate		5	U
206-44-0	Fluoranthene		5	U
92-87-5	Benzidine		25	U
129-00-0	Pyrene		5	U
85-68-7	Butylbenzylphthalate		5	U
91-94-1	3,3'-Dichlorobenzidine		10	U
56-55-3	Benzo(a)anthracene		5	U
218-01-9	Chrysene		5	U
117-81-7	bis(2-Ethylhexyl)phthalate		2.7	J
117-84-0	Di-n-octylphthalate		5	U
205-99-2	Benzo(b)fluoranthene		5	U
207-08-9	Benzo(k)fluoranthene		5	U
50-32-8	Benzo(a)pyrene		5	U
193-39-5	Indeno(1,2,3-cd)pyrene		5	U
53-70-3	Dibenz(a,h)anthracene		5	U
191-24-2	Benzo(g,h,i)perylene		5	U

Q - Data reporting qualifiers:
U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT
FOR SAMPLE NUMBER H9522130

RECEIVED 4/21/95
REPORTED 4/26/95

COLLECTOR	TOM CUNNINGHAM BVM	SAMPLING DATE	4/20/95
COLLECTOR NO.	2141101	SAMPLING TIME	14:15
ESTABLISHMENT	BOYERTOWN LANDFILL	STANDARD ANAL	200
CASE NAME	LEACHATE ANALYSIS	TYPE CODE	
FACILITY	RAW LEACHATE BASIN	WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION		RESULT	CONC	VERIFY BY		VERIFY DATE
00719A	CN FREE HBS	<	1.0000	UG/L	G	EVC	4/25/95
00720A	CYANIDE	<	0.0010	MG/L	G	EVC	4/25/95

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 2

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER M9522132

RECEIVED 4/21/95
REPORTED 4/26/95

COLLECTOR TOM CUNNINGHAM BWM
COLLECTOR NO. 2141105
ESTABLISHMENT BOYERTOWN LANDFILL
CASE NAME LEACHATE ANALYSIS
FACILITY BASIN 8
ID CODE

SAMPLING DATE 4/20/95
SAMPLING TIME 14:30
STANDARD ANAL 200
TYPE CODE
VQM
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00719A	CN FREE HBG	<	1.0000	UG/L	G	EVC	4/25/95
00720A	CYANIDE	<	0.0010	MG/L	G	EVC	4/25/95

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 2

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

LABORATORY REPORT
FOR SAMPLE NUMBER H9522113

RECEIVED 4/21/95
REPORTED 5/03/95

COLLECTOR TOM CUNNINGHAM BVM
COLLECTOR NO. 2141100
ESTABLISHMENT BOYERTOWN LANDFILL
CASE NAME LEACHATE ANALYSIS
FACILITY ROW LEACHATE BASIN
ID CODE

SAMPLING DATE 4/20/95
SAMPLING TIME 14:15
STANDARD ANAL 208
TYPE CODE
VQN
STREAM CODE
RIVER MILE IND

TEST	DESCRIPTION		RESULT	CONC	VERIFY	BY	VERIFY DATE
00095	SPEC CONDUCT		5559.0000		G	HVS	4/24/95
00403	PH LAB		6.9000		G	HVS	4/21/95
00418	T ALK CACO3		1696.0000	MG/L	G	HVS	4/21/95
00610A	NH3-N		186.0000	MG/L	G	HEM	4/21/95
00620A	NO3-N		0.0500	MG/L	G	DJD	4/21/95
00680	C TOT ORGANC		134.0000	MG/L	G	VVM	4/24/95
00719A	CN FREE MBG	<	1.0000	UG/L	G	EYC	4/25/95
00720A	CYANIDE		0.0100	MG/L	G	EYC	4/25/95
00918A	CA TOT REC		121.0000	MG/L	G	REV	4/25/95
00921A	MG TOT REC		155.0000	MG/L	G	REV	4/27/95
00923A	NA TOT REC		489.0000	MG/L	G	REV	4/27/95
00939A	K TOT REC		126.0000	MG/L	G	MYM	4/25/95
00940A	CL		1020.0000	MG/L	G	HEM	4/21/95
00945A	SO4 TOTAL		12.0000	MG/L	G	EYC	5/02/95
00951	FLUORIDE TOT		0.5100	MG/L	G	FFY	4/21/95
00978H	AS TOT REC		8.6000	UG/L	G	BHL	4/26/95
00980A	FE TOT REC		23400.0000	UG/L	G	REV	4/25/95
00981H	SE TOT REC		24.4000	UG/L	G	BHL	4/26/95
01009A	BA TOT REC		1770.0000	UG/L	G	REV	4/25/95
01079A	AG TOT REC	<	10.0000	UG/L	G	REV	4/25/95
01094A	ZN TOT REC		21.0000	UG/L	G	REV	4/25/95
01113H	CD TOT REC	<	0.2000	UG/L	G	BHL	4/26/95
01114H	PB TOT REC		11.6000	UG/L	G	BHL	4/26/95
01118H	CR TOT REC		19.8000	UG/L	G	BHL	4/26/95
01119A	CU TOT REC		19.0000	UG/L	G	REV	4/25/95
01123A	MN TOT REC		3180.0000	UG/L	G	REV	4/25/95
71901X	MERCURY REC	<	1.0000	UG/L	G	SAH	4/24/95
82079	TURBIDITY		260.0000	NTU	G	DHN	4/25/95

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 28

BLUE MARSH LABORATORY, INC.

85 Benjamin Franklin Highway
Douglassville, PA 19518
Phone (610) 327-8196
FAX (610) 327-6864

Certifications:
NJ DEPE Cert #77925
PA DEP Cert #06-409

Client Information:

Tri-State Environmental, Inc.
1205 Pottstown Pike
Glenmoore, PA 19343

Attn: Byron Wenger

Lot No: 555

Number of Samples: 2

Date Submitted: 06-Mar-97

Sample Matrix: Water

Sample Information:
Project: BOYERTOWN LANDFILL
Date Sampled: 03/06/97
Sampled by: Robert A. Schwindt/BML

Lab ID No:	Sample ID:
9703-1672	Carbon Tanks
9703-1673	Raw Lagoon

Contents of Report:

BLUE MARSH LABORATORY, INC.
85 Benjamin Franklin Highway
Douglassville, PA 19518
Phone: (610) 327-8196
Fax: (610) 327-6864

ANALYTICAL RESULTS

BLUE MARSH LABORATORY, INC.

Project: BOYERTOWN LANDFILL

Parameter	Carbon Tanks 9703-1672	Raw Lagoon 9703-1673	Maximum Concentration (mg/l)	P.Q.L.	EPA Method Used	Analyst's Initials	Analysis Date/Time
PRIORITY POLLUTANT METALS: (mg/l)							
Antimony	ND	ND	—	0.1	200.7	ALS	03/13/97-14:30
Arsenic	ND	ND	0.361	0.1	200.7	ALS	03/11/97-12:15
Beryllium	ND	ND	—	0.03	200.7	ALS	03/13/97-14:00
Cadmium	ND	ND	—	0.03	200.7	ALS	03/11/97-12:15
Chromium, Total	0.03	0.05	5.0	0.03	200.7	ALS	03/11/97-12:15
Copper	ND	ND	3.55	0.03	200.7	ALS	03/12/97-11:30
Lead	ND	ND	2.0	0.1	200.7	ALS	03/11/97-12:15
Mercury	ND	ND	—	0.0002	245.1	MGU	03/10/97-15:45
Nickel	0.05	0.09	2.0	0.03	200.7	ALS	03/12/97-11:30
Selenium	0.3	ND	—	0.1	200.7	ALS	03/11/97-12:15
Silver	ND	ND	—	0.03	200.7	ALS	03/11/97-12:15
Thallium	ND	ND	—	0.1	200.7	ALS	03/13/97-15:00
Zinc	0.06	0.10	2.0	0.03	200.7	ALS	03/12/97-11:30
MISC. on TOTAL: (mg/l - Unless Otherwise Noted)							
Ammonia as N	0.9	—	25.0	0.1	350.3	CDC	03/11/97-10:00
Asbestos	ND	ND	—	1.%	EPA/600/J-93/497	PAL	03/10/97-21:51
BOD (5-Day)	10.	—	150.0	1.0	SM 5210B	CDC	03/07/97-16:00
Color (Pt. Cobalt Units)	83.	—	150.	1	110.1	CDC	03/07/97-14:00
Cyanide	0.010	0.014	0.50	0.005	335.2	CDC	03/13/97-14:00
Oil & Grease	3.	—	25.0	2.	413.1	CDC	03/14/97-15:30
Petroleum Hydrocarbons	ND	ND	—	0.5	418.1	LSK	03/07/97-14:00
pH (Corrosivity)	7.82	—	6.-9.	+/-0.01	150.1	CDC	03/07/97-16:00
Phenols	ND	—	2.43	0.05	420.1	CDC	03/14/97-14:00
Phosphorus as P	0.2	—	25.0	0.05	H 8190	CDC	03/11/97-14:00
Total Dissolved Solids	2170.	—	3500.0	10.	160.1	CDC	03/07/97-15:30

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

NOTE: Priority Pollutant Volatiles, Priority Pollutant Semi-Volatiles, PCB, and Pesticides results also follow for each of the above samples.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9703-1672

Lab Name: BLUE MARSH LAB Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: A1672

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0137.D

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. 100 Date Analyzed: 3/10/97

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1	U
75-27-4	Bromodichloromethane	1	U
75-25-2	Bromoform	1	U
74-83-9	Bromomethane	1	U
56-23-5	Carbon tetrachloride	1	U
108-90-7	Chlorobenzene	1	U
75-00-3	Chloroethane	1	U
110-75-8	2-Chloroethylvinyl ether	1	U
67-66-3	Chloroform	1	U
74-87-3	Chloromethane	1	U
124-48-1	Dibromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
75-34-3	1,1-Dichloroethane	1	U
107-06-2	1,2-Dichloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
100-41-4	Ethyl benzene	1	U
75-09-2	Methylene chloride	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
127-18-4	Tetrachloroethene	1	U
108-88-3	Toluene	1	U
71-55-6	1,1,1-Trichloroethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
79-01-6	Trichloroethene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9703-1672

Lab Name: BLUE MARSH LAB Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: A1672

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0137.D

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. 100 Date Analyzed: 3/10/97

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
75-69-4	Trichlorofluoromethane	1	U
75-01-4	Vinyl chloride	1	U
107-02-8	Acrolein	10	U
107-13-1	Acrylonitrile	10	U

Q - DATA QUALIFIERS:

U - Indicates the compound was analyzed for but not detected.
The practical quantitation limit (PQL) is stated in the preceding column.

J - Indicates an estimated value.

B - Indicates the compound was detected in the method blank as well as in the sample.

E - Indicates the compound concentration exceeds the calibration range of the method.

D - Indicates the compound was analyzed at a secondary dilution factor.

EPA Method 624 (CFR 49, No. 209, Oct. 1984) - Purgable Compounds by GC/MS

VOLATILE ORGANICS ANALYSIS DATA SHEET

9703-1673

Lab Name: BLUE MARSH LAB Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: A1673

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0138.D

Level: (low/med) Date Received:

% Moisture: not dec. 100 Date Analyzed: 3/10/97

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
71-43-2	Benzene	1	U
75-27-4	Bromodichloromethane	1	U
75-25-2	Bromoform	1	U
74-83-9	Bromomethane	1	U
56-23-5	Carbon tetrachloride	1	U
108-90-7	Chlorobenzene	1	U
75-00-3	Chloroethane	1	U
110-75-8	2-Chloroethylvinyl ether	1	U
67-66-3	Chloroform	1	U
74-87-3	Chloromethane	1	U
124-48-1	Dibromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
75-34-3	1,1-Dichloroethane	1	U
107-06-2	1,2-Dichloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
100-41-4	Ethyl benzene	1	U
75-09-2	Methylene chloride	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
127-18-4	Tetrachloroethene	1	U
108-88-3	Toluene	1	U
71-55-6	1,1,1-Trichloroethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
79-01-6	Trichloroethene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9703-1673

Lab Name: BLUE MARSH LAB Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: A1673

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A0138.D

Level: (low/med) _____ Date Received: _____

% Moisture: not dec. 100 Date Analyzed: 3/10/97

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-69-4	Trichlorofluoromethane	1	U
75-01-4	Vinyl chloride	1	U
107-02-8	Acrolein	10	U
107-13-1	Acrylonitrile	10	U

Q - DATA QUALIFIERS:

U - Indicates the compound was analyzed for but not detected.
The practical quantitation limit (PQL) is stated in the preceding column.

J - Indicates an estimated value.

B - Indicates the compound was detected in the method blank as well as in the sample.

E - Indicates the compound concentration exceeds the calibration range of the method.

D - Indicates the compound was analyzed at a secondary dilution factor.

EPA Method 624 (CFR 49, No. 209, Oct. 1984) - Purgable Compounds by GC/MS

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9703-1672

Lab Name: BLUE MARSH LAB Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: A1672

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: C9553.D

Level: (low/med) Date Received:

% Moisture: 100 decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 3/10/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
83-32-9	Acenaphthene	5	U
208-96-8	Acenaphthylene	5	U
120-12-7	Anthracene	5	U
92-87-5	Benzidene	25	U
56-55-3	Benzo(a)anthracene	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U
50-32-8	Benzo(a)pyrene	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
117-81-7	bis(2-Ethylhexyl) phthalate	5	U
101-55-3	4-Bromophenyl phenyl ether	5	U
85-68-7	Butyl benzyl phthalate	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-58-7	2-Chloronaphthalene	5	U
95-57-8	2-Chlorophenol	5	U
7005-72-3	4-Chlorophenyl phenyl ether	5	U
218-01-9	Chrysene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
84-74-2	Di-n-butyl phthalate	5	U
95-50-1	1,2-Dichlorobenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
120-83-2	2,4-Dichlorophenol	5	U
87-65-0	2,6-Dichlorophenol	5	U
84-66-2	Diethyl phthalate	5	U
105-67-9	2,4-Dimethylphenol	5	U
131-11-3	Dimethyl phthalate	5	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
51-28-5	2,4-Dinitrophenol	25	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

9703-1672

Lab Name: BLUE MARSH LAB Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: A1672

Sample wt/vol: 500.0 (g/mL ML Lab File ID: C9553.D

Level: (low/med) Date Received:

% Moisture: 100 decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 3/10/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
117-84-0	Di-n-octyl phthalate	5	U
122-66-7	1,2-Diphenylhydrazine	5	U
206-44-0	Fluoranthene	5	U
86-73-7	Fluorene	5	U
118-74-1	Hexachlorobenzene	5	U
87-68-3	Hexachlorobutadiene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
67-72-1	Hexachloroethane	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
78-59-1	Isophorone	5	U
91-20-3	Naphthalene	5	U
98-95-3	Nitrobenzene	5	U
88-75-5	2-Nitrophenol	5	U
100-02-7	4-Nitrophenol	25	U
62-75-9	n-Nitrosodimethylamine	5	U
86-30-6	n-Nitrosodiphenylamine	5	U
621-64-7	n-Nitrosodi-n-propylamine	5	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	5	U
108-95-2	Phenol	5	U
129-00-0	Pyrene	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	5	U

Q - DATA QUALIFIERS:

U - Indicates the compound was analyzed for but not detected.
The practical quantitation limit (PQL) is stated in the preceding column.

J - Indicates an estimated value.

B - Indicates the compound was detected in the method blank as well as in the sample.

E - Indicates the compound concentration exceeds the calibration range of the method.

D - Indicates the compound was analyzed at a secondary dilution factor.

EPA Method 625

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 9703-1673

Lab Name: BLUE MARSH LAB Contract:

Project No.: Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: A1673

Sample wt/vol: 500.0 (g/mL ML Lab File ID: C9556.D

Level: (low/med) Date Received:

% Moisture: 100 decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 3/10/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
83-32-9	Acenaphthene	5	U
208-96-8	Acenaphthylene	5	U
120-12-7	Anthracene	5	U
92-87-5	Benzidene	25	U
56-55-3	Benzo(a)anthracene	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U
50-32-8	Benzo(a)pyrene	5	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
117-81-7	bis(2-Ethylhexyl) phthalate	5	U
101-55-3	4-Bromophenyl phenyl ether	5	U
85-68-7	Butyl benzyl phthalate	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-58-7	2-Chloronaphthalene	5	U
95-57-8	2-Chlorophenol	5	U
7005-72-3	4-Chlorophenyl phenyl ether	5	U
218-01-9	Chrysene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
84-74-2	Di-n-butyl phthalate	5	U
95-50-1	1,2-Dichlorobenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
120-83-2	2,4-Dichlorophenol	5	U
87-65-0	2,6-Dichlorophenol	5	U
84-66-2	Diethyl phthalate	5	U
105-67-9	2,4-Dimethylphenol	5	U
131-11-3	Dimethyl phthalate	5	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
51-28-5	2,4-Dinitrophenol	25	U

1A

PCB ANALYSIS DATA SHEET

Lab Name:	Blue Marsh Lab		Contract:	
Project No.:			Site:	
Group:			Location:	
			Sample ID	
Matrix: (soil/water)	water		Lab Sample ID:	9703-1673
Sample wt/vol:	75 (g/ml)	ml	Lab File ID:	b188
% Moist: 100.0	Dilution Factor:	1	Date Recieved:	
GC Colum db608			Date Analyzed:	3/12/97

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Arochlor 1016	10	U
11104-28-2	Arochlor 1221	40	U
11141-16-5	Arochlor 1232	10	U
53469-21-9	Arochlor 1242	10	U
12672-29-6	Arochlor 1248	10	U
11097-69-1	Arochlor 1254	20	U
11096-82-5	Arochlor 1260	20	U

U - Indicates the compound was analyzed for, but not detected at, or above, the concentration stated

B - Indicates the compound was detected in the method blank as well as in the sample

E - Identifies the compounds whose concentrations exceed the calibration range of the instrument

Analyst JP

FORM I PCB

2 DE

1A

PESTICIDE ANALYSIS DATA SHEET

Lab Name: Blue Marsh Lab
Project No.:
Group:

Contract:
Site:
Location:
Sample ID:

Matrix: (soil/water) Water
Sample wt/vol: 75 (g/ml) ml
% Moist: 100.0 Dilution Factor: 1
GC Column: DB608 30M x 0.53mm x 1um

Lab Sample ID: 9703-1672
Lab File ID: b187
Date Recieved:
Date Analyzed: 3/11/97

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l	Q
58-89-9	Lindane	0.3	U
76-44-8	Heptachlor	0.3	U
1024-57-3	Heptachlor Epoxide	0.3	U
72-20-8	Endrin	0.3	U
72-43-5	Methoxychlor	3.0	U
57-74-9	Chlordane	3.0	U
8001-35-2	Toxaphene	3.0	U
309-00-2	Aldrin	0.3	U
319-84-6	a-BHC	0.3	U
319-85-7	b-BHC	0.3	U
319-86-8	d-BHC	0.3	U
72-54-8	DDD	0.7	U
72-55-9	DDE	0.7	U
60-57-1	DDT	0.7	U
959-98-8	Dieldrin	0.7	U
33212-65-9	Endosulfan I	0.7	U
1031-07-8	Endosulfan II	0.7	U
7421-93-4	Endrin Aldehyde	0.7	U
1031-07-8	Endosulfan Sulfate	0.7	U

U - Indicates the compound was analyzed for, but not detected at, or above, the concentration stated

B - Indicates the compound was detected in the method blank as well as in the sample

E - Identifies the compounds whose concentrations exceed the calibration range of the instrument

FORM I PEST

1A

PESTICIDE ANALYSIS DATA SHEET

Lab Name: Blue Marsh Lab
Project No.:
Group:

Contract:
Site:
Location:
Sample ID:
Lab Sample ID: 9703-1673
Lab File ID: b188
Date Recieved:
Date Analyzed: 3/11/97

Matrix: (soil/water) Water
Sample wt/vol: 75 (g/ml) ml
% Moist: 100.0 Dilution Factor: 1
GC Column: DB608 30M x 0.53mm x 1um

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l	Q
58-89-9	Lindane	0.3	U
76-44-8	Heptachlor	0.3	U
1024-57-3	Heptachlor Epoxide	0.3	U
72-20-8	Endrin	0.3	U
72-43-5	Methoxychlor	3.0	U
57-74-9	Chlordane	3.0	U
8001-35-2	Toxaphene	3.0	U
309-00-2	Aldrin	0.3	U
319-84-6	a-BHC	0.3	U
319-85-7	b-BHC	0.3	U
319-86-8	d-BHC	0.3	U
72-54-8	DDD	0.7	U
72-55-9	DDE	0.7	U
60-57-1	DDT	0.7	U
959-98-8	Dieldrin	0.7	U
33212-65-9	Endosulfan I	0.7	U
1031-07-8	Endosulfan II	0.7	U
7421-93-4	Endrin Aldehyde	0.7	U
1031-07-8	Endosulfan Sulfate	0.7	U

U - Indicates the compound was analyzed for, but not detected at, or above, the concentration stated

B - Indicates the compound was detected in the method blank as well as in the sample

E - Identifies the compounds whose concentrations exceed the calibration range of the instrument

FORM I PEST

RJK

BLUE MARSH LABORATORY, INC.

85 Benjamin Franklin Highway
Douglassville, PA 19518
Phone (610) 327-8196
FAX (610) 327-6864

Certifications:
NJ DEPE Cert #77925
PA DEP Cert #06-409

Client Information:

Boyertown Sanitary Disposal Co., Inc.
RD 1, Box 360
Glenmoore, PA 19343

Attn: Warren Frame

BML Lot No: 0885

Number of Samples: 2

Date Submitted: 20-Mar-98

Sample Matrix: Water

Sample Information:
Date Sampled: 3-20-98
Sampled by: Chris Curry (BML)

Lab ID No:	Sample ID:
9803-3082	Raw Leachate
9803-3083	Basin B (Treated Effluent)

Contents of Report:

Cover Page
Analytical Results
Chain of Custody
Verification

BLUE MARSH LABORATORY, INC.

Parameter	Raw Leachate 9803-3082	Basin B 9803-3083	P.Q.L.	EPA Method Used
PRIORITY POLLUTANT METALS: (mg/l)				
Antimony	ND	ND	0.02	200.7
Arsenic	ND	ND	0.02	200.7
Beryllium	ND	ND	0.005	200.7
Cadmium	ND	ND	0.005	200.7
Chromium, Total	0.010	0.010	0.005	200.7
Copper	ND	ND	0.005	200.7
Lead	ND	ND	0.02	200.7
Mercury	ND	0.0011	0.0002	245.1
Nickel	0.025	0.025	0.005	200.7
Selenium	ND	ND	0.02	200.7
Silver	ND	ND	0.005	200.7
Thallium	ND	ND	0.02	200.7
Zinc	0.025	0.025	0.005	200.7
MISC. Analysis: (mg/l)				
Cyanide, total	0.009	0.024	0.007	335.2
Phenols, total	0.023	0.016	0.005	420.1

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

BLUE MARSH LABORATORY, INC.

Parameter	Raw Leachate 9803-3082	Basin B 9803-3083	P.Q.L.
METHOD 624 - Purgeables: (ug/l)			
Chloromethane	ND	ND	50./1.
Bromomethane	ND	ND	50./1.
Vinyl chloride	ND	ND	50./1.
Chloroethane	ND	ND	50./1.
Methylene chloride	ND	ND	50./1.
Trichlorofluoromethane	ND	ND	50./1.
1,1-Dichloroethene	ND	ND	50./1.
1,1-Dichloroethane	ND	ND	50./1.
trans-1,2-Dichloroethane	ND	ND	50./1.
Chloroform	ND	ND	50./1.
1,2-Dichloroethane	ND	ND	50./1.
1,1,1-Trichloroethane	ND	ND	50./1.
Carbon tetrachloride	ND	ND	50./1.
Bromodichloromethane	ND	ND	50./1.
1,2-Dichloropropane	ND	ND	50./1.
cis-1,3-Dichloropropane	ND	ND	50./1.
Trichloroethylene	ND	ND	50./1.
Benzene	ND	ND	50./1.
Dibromochloromethane	ND	ND	50./1.
1,1,2-Trichloroethane	ND	ND	50./1.
trans-1,3-Dichloropropane	ND	ND	50./1.
2-Chloroethylvinyl ether	ND	ND	50./1.
Bromoform	ND	ND	50./1.
1,1,2,2-Tetrachloroethane	ND	ND	50./1.
Tetrachloroethene	ND	ND	50./1.
Toluene	ND	ND	50./1.
Chlorobenzene	ND	ND	50./1.

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

BLUE MARSH LABORATORY, INC.

Parameter	Raw Leachate 9803-3082	Basin B 9803-3083	P.Q.L.
METHOD 624 (cont'd): (ug/l)			
Ethyl benzene	ND	ND	50./1.
1,2-Dichlorobenzene	ND	ND	50./1.
1,3-Dichlorobenzene	ND	ND	50./1.
1,4-Dichlorobenzene	ND	ND	50./1.
METHOD 625 - Base Neutrals and Acids: (ug/l)			
1,3-Dichlorobenzene	ND	ND	2.0
1,4-Dichlorobenzene	ND	ND	2.0
Hexachloroethane	ND	ND	2.0
Bis(2-chloroethyl)ether	ND	ND	2.0
1,2-Dichlorobenzene	ND	ND	2.0
Bis(2-chloroisopropyl)ether	ND	ND	2.0
N-Nitrosodi-n-propylamine	ND	ND	2.0
Nitrobenzene	ND	ND	2.0
Hexachlorobutadiene	ND	ND	2.0
1,2,4-Trichlorobenzene	ND	ND	2.0
Isophorone	ND	ND	2.0
Naphthalene	ND	ND	2.0
Bis(2-chloroethoxy)methane	ND	ND	2.0
Hexachlorocyclopentadiene	ND	ND	2.0
Acenaphthylene	ND	ND	2.0
Acenaphthene	ND	ND	2.0
Dimethyl phthalate	ND	ND	2.0
2,6-Dinitrotoluene	ND	ND	2.0
Fluorene	ND	ND	2.0
4-Chlorophenyl phenyl ether	ND	ND	2.0
2,4-Dinitrotoluene	ND	ND	2.0
Diethyl phthalate	ND	ND	2.0
N-Nitrosodiphenylamine	ND	ND	2.0
Hexachlorobenzene	ND	ND	2.0
4-Bromophenyl phenyl ether	ND	ND	2.0

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

BLUE MARSH LABORATORY, INC.

Parameter	Raw Leachate 9803-3082	Basin B 9803-3083	P.Q.L.
METHOD 625 (cont'd): (ug/l)			
Phenanthrene	ND	ND	2.0
Anthracene	ND	ND	2.0
Dibutyl phthalate	ND	ND	2.0
Fluoranthene	ND	ND	2.0
Benzidene	ND	ND	2.0
Butyl benzyl phthalate	ND	ND	2.0
Bis(2-ethylhexy)phthalate	ND	ND	2.0
Chrysene	ND	ND	2.0
Benzo(a)anthracene	ND	ND	2.0
Dichlorobenzidine	ND	ND	2.0
Di-n-octyl phthalate	ND	ND	2.0
Benzo(b)fluoranthene	ND	ND	2.0
Benzo(k)fluoranthene	ND	ND	2.0
Benzo(a)pyrene	ND	ND	2.0
Indeno(1,2,3-cd)pyrene	ND	ND	2.0
Dibenzo(a,h)anthracene	ND	ND	2.0
Benzo(ghi)peryiene	ND	ND	2.0
N-Nitrosodimethylamine	ND	ND	2.0
2-Chlorophenol	ND	ND	2.0
2-Nitrophenol	ND	ND	2.0
Phenol	ND	ND	2.0
2,4-Dimethylphenol	ND	ND	2.0
2,4-Dichlorophenol	ND	ND	2.0
2,4,6-Trichlorophenol	ND	ND	2.0
4-Chloro-3-methylphenol	ND	ND	2.0
2,4-Dinitrophenol	ND	ND	2.0
2-methyl-4,6-dinitrophenol	ND	ND	2.0
Pentachlorophenol	ND	ND	2.0
4-Nitrophenol	ND	ND	2.0

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

BLUE MARSH LABORATORY, INC.

Parameter	Raw Leachate 9803-3082	Basin B 9803-3083	P.Q.L.
METHOD 608 - Organochlorine Pesticides and PCBs: (mg/l)			
Alpha-BHC	ND	ND	0.0005
Gamma-BHC (Lindane)	ND	ND	0.0005
Beta-BHC	ND	ND	0.005
Heptachlor	ND	ND	0.0005
Delta-BHC	ND	ND	0.0005
Aldrin	ND	ND	0.0005
Heptachlor epoxide	ND	ND	0.0005
Endosulfan I	ND	ND	0.0005
4,4'-DDE	ND	ND	0.0009
Dieldrin	ND	ND	0.0009
Endrin	ND	ND	0.0009
4,4'-DDD	ND	ND	0.0009
Endosulfan II	ND	ND	0.0009
4,4'-DDT	ND	ND	0.0009
Endrin aldehyde	ND	ND	0.0009
Endosulfan sulfate	ND	ND	0.0009
Chlordane	ND	ND	0.01
Toxaphene	ND	ND	0.05
PCB	ND	ND	0.05

ND = The compound indicated was not detected at or above the practical quantitation limit (PQL) listed for the method performed.

This report has been reviewed and approved by the person(s) signed below.
The report is accurate to the best of our knowledge.

Sincerely,

Laurel A. Schwindt

Laurel A. Schwindt
Laboratory Manager

Appendix C (Correspondence)

Pennsylvania Department of Environmental Protection

OFFICE OF CHIEF COUNSEL
LEE PARK - 555 NORTH LANE - SUITE 6015
CONSHOHOCKEN, PA 19428-2233

July 14, 1998

Southeast Regional Counsel
Telephone: (610) 832-6300
Fax: (610) 832-6321

JUL - 5 1998

Daniel F. Schuckers
Prothonotary
Commonwealth Court of Pennsylvania
Room 626 South Office Building
Harrisburg, PA 17108

Re: Commonwealth Department of Environmental Protection v. Boyertown Sanitary Disposal Co., Inc. and Warren Frame
No. 49 M.D. 1998

Dear Mr. Schuckers:

Enclosed for filing with the Court please find the Department's Status Report in the above captioned matter.

Yours truly,

Kenneth A. Gelburd
Assistant Regional Counsel

Enclosure

cc w/ enclosure: Hon. Eunice Ross (fax and first class mail)
Loren Szczesny, Esquire

bcc: Nancy Roncetti

page document with attachments (the Court will recall that Paragraph A.2. of its Order required that the Assessment provide for *completion* of repairs by June 30, 1998). Landfillers' consultants, AGES corporation, represented that this document was meant to be the Assessment so long awaited by the Department.

The Department has done a very preliminary review of the Assessment, which latter document is at best superficial. Simply by way of example, without limitation, some of the Assessment's deficiencies are:

Failure to state criteria for, and to demonstrate adequacy of, leachate lagoon pumps.

Omission of criteria and methodology for evaluating flow and capacity in clarifier and fixed film reactor.

Absence of a detailed proposal for evaluating and repairing leachate impoundments.

Noninclusion of a full parameter sampling of groundwater, which sampling was supposed to have been carried out by May 1, 1998 under Paragraph C of the Court's Order.

IN THE
COMMONWEALTH COURT OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, Petitioner	:	
v.	:	No. 49 M.D. 1998
BOYERTOWN SANITARY DISPOSAL CO., INC., and WARREN K. FRAME Respondents	:	

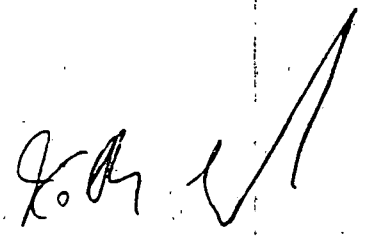
CERTIFICATE OF SERVICE

I hereby certify that I am this day serving the foregoing document upon the persons and in the manner indicated below, which services satisfies the requirements of Pa. R.A.P. 121:

Service by first class mail as follows:

(Counsel for Frame and Boyertown Sanitary Disposal)

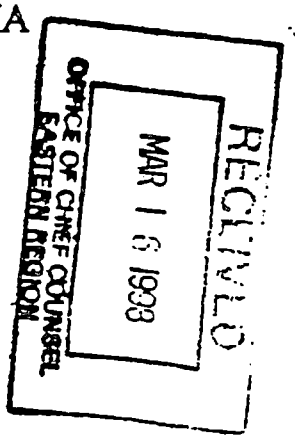
Loren D. Szczesny, Esquire
Reynier, Crocker, Allenbach & Reber, P.C.
424 King Street, P.O. Box 777
Pottstown, PA 19464
Telephone: 610-326-7500



Kenneth A. Gelburd
Assistant Counsel
Attorney ID No. 32887
COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Office of Chief Counsel - Southeast Region
Lee Park - 555 North Lane - Suite 6015
Conshohocken, PA 19428-2233
Telephone: 610-832-6300

DATE: July 14, 1998

IN THE COMMONWEALTH COURT OF PENNSYLVANIA



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, Petitioner	:	
v.	:	
BOYERTOWN SANITARY DISPOSAL CO., INC. and WARREN K. FRAME, Respondent	:	No. 49 M.D. 1998

ORDER

AND NOW, this eleventh day of March, 1998, upon consideration of the petition to enforce administrative order of petitioner Commonwealth of Pennsylvania Department of Environmental Protection ("Department"), and responses thereto by respondents Boyertown Sanitary Disposal Co., Inc. ("BSD") and Warren Frame ("Frame"), the Court finds that DSD and Frame have violated and continue to violate the requirements of the Department's March 25, 1997 administrative order, it is hereby ordered that BSD and Frame shall:

A. Within twenty (20) days of the Court's order retain, and ensure reasonable compensation for, a qualified environmental consultant to assess the leachate management, gas management, and capping systems of Boyertown Landfill. The assessment should be submitted to the Court and the Department not later than forty (40) days from the date of the Court's order. The assessment should include, but not be limited to:

1. Evaluation of the condition and usability of:

   a) the leachate management system, with particular attention to the raw and treated leachate storage surface impoundments ("the lagoons") on site.

   b) The on-site leachate treatment facilities;

   c) The site groundwater monitoring system; and

   d) The site gas management system.

2. Recommendations and schedules for rectifying non-compliant and/or environmentally harmful aspects of the site facilities listed in the preceding

subparagraph, in accordance with the Department-approved closure plan for the site. The schedule(s) should call for completion of such repairs/improvements and achievement of compliance not later than June 30, 1998.

3. An accounting of the disposition of the oil-contaminated soil specified in Paragraph 18 of this petition; and

4. A detailed description of the cut in the site cover where BSD and Frame had been recirculating leachate, as well as the additional area of impaired site cover approximately one hundred yards east of the leachate recirculation cut, said description to include but not necessarily be limited to: area extent, depth and dimensions of cover breach; description and current location of any material (earth, clay, solid waste, etc.) removed from cover breach; current condition and dimensions of cover breach).

B. Diligently cause to be completed the activities specified in paragraph A hereof, within the time set forth, as approved or approved with modifications by the Department.

C. Not later than May 1, 1998, resume and continue quarterly groundwater monitoring for all parameters including in the Department's form 19, "Municipal Waste Landfill Quarterly and Annual Water Quality Analyses", the first quarterly sampling event being the "annual event" detailed in 25 Pa. Code §§ 265.90 – 265.94.

D. Immediately cause raw and treated leachate to be sampled for consistency with the requirements of, and arrange contractually for ongoing full disposal of site leachate at, BMMA's wastewater treatment plant.

Eunice Ross

Eunice Ross, Senior Judge

CERTIFIED FROM THE RECORD
AND ORDER EXIT

MAR 12 1998

Deputy Prothonotary - Chief Clerk

Pennsylvania Department of Environmental Protection

Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
April 20, 1998

Southeast Regional Office

610-832-6059
Fax 610-832-6260

Mr. Robert Braglio
Superior Water Company
1030 West Germantown Pike
Box 223
Fairview Village, PA 19409

Re: Grosser Road Estates Development
Douglas Township
Sanitary Survey for Proposed Well

Dear Mr. Braglio:

This is to confirm the findings of a sanitary survey conducted on March 10, 1998, at the site of a proposed well for Superior Water Company in Douglas Township, Montgomery County.

The proposed well site is located at the approximate coordinates of 40°18'18" North Latitude and 75°37'10" West Longitude on the 7.5 minute U.S. Geological Survey (USGS) Sassamansville, PA, quadrangle. The site is situated within the Lower Delaware River Basin (Sub-Basin E).

The sanitary survey took into account both natural and man-made factors which might affect the quality and quantity of the groundwater.

As we discussed, the proximity of the Boyertown Sanitary Disposal Company facility, a closed landfill, raises concerns about its impact on a public water supply source. According to Mr. Tom Cunningham of the Bureau of Land Recycling and Waste Management, this landfill contains a quantity of hazardous waste in addition to municipal waste. Also, the operator of the landfill has previously violated the regulations of the Department.

In considering the proposed site of a public water supply well, we must abide by the regulations implemented by other bureaus. Municipal waste landfills are required to be 1320 feet from a public water supply source (Municipal Waste Regulations Chapter 273.202(a)(13)).

To be considered for approval, proposed well sites along Grosser Road must comply with the following provisions:

- The distance from the well to the boundary of the Boyertown facility must exceed 1320 feet;
- A water-quality monitoring well must be installed in a location such that any adverse impact on the groundwater flowing towards the supply well could be anticipated;

tr'd

2510-FM-LRWM0119 Rev 8.95

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT/DATA ENTRY

Site I.D # | | | | | | | | | 0 | 0 | 5 | 5 | 0

Site Name Boyertown Landfill

Address 300 merkel Road

Gilbertsville PA 19525

Municipality Douglass Township

Responsible Official Warren Frame

Person Interviewed

Inspector

Telephone #

Operator Name

Address

County Montgomery

Title Owner

Title

Time

Date	Inspection Date	Inspection Type	Facility Type	Inspector Number	# Violation
07/21/98	07/21/98	04	01	214	See rpt

Comment Flowdow-Inspection

Sample # Low | | | | | | Sample # High | | | | | |

Monitoring Points Sampled

INSPECTION TYPE

01	Routine	10	Survey
02	Spill response	11	Part B
03	Remedial Action	12	Complaint
04	Follow Up	13	Withdrawn
05	Crit Stage	14	Closure
06	Sample Only	15	Post Closure
07	Permitting	16	Form 4
08	Superfund	17	Form 4 w/sample
09	Ground Water	50	Record Rev
		99	Other

FACILITY TYPE

Municipal		Residual		Hazardous	
01	Municipal Waste Landfill	06	Landfill	01	Disposal
02	Construction/Demolition Landfill	07	Demolition	02	Treatment
03	Processing	08	Processing	03	Storage
04	Incinerator	09	Incinerator	04	Transporter
05	Surface Application	10	Surface Application	05	Permit by Rule
		11	Surface Impoundment	06	Generator
		12	Surface Injection Well	07	SQG
		13	Generator	08	RRR
		14	SQG	09	Other
				50	Superfund

ER-WM-129: Rev. 10/96

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of inspection 21 July 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

A municipal/hazardous waste landfill inspection was conducted on Tuesday, July 21, 1998, by John Mital, Solid Waste Specialist, and Dinesh Rajkotia, Engineer..

The following observations were made:

1) The raw leachate lagoon had about four feet of freeboard. Treatment lagoon B had approximately five feet of freeboard and treatment lagoon A was almost empty. The tear in the lagoon A liner has not been repaired. Weeds were observed growing up through the raw leachate lagoon liner.

2) The leachate seep located along the leachate treatment plant fence was not flowing.

3) The material from the pits dug at the top of the landfill is still piled behind the recycling center. Vegetation is now covering the soil and waste.

4) Several monitoring wells have had the vegetation cut from around them for access.

5) The flare shed is still not in operating condition.

6) Sections of the landfill have been mowed since the last inspection.

All violations from the previous inspections still exist at the landfill. Other than grass cutting, no other visible improvements have been made at the site.

This inspection report is notice of the findings of an inspection conducted by a representative of the Department. This report is formal notification of any violations observed during the inspection. Additional notification of violations may be issued concerning either violations noted herein, or other violations identified as a result of review of laboratory analyses or Department records.

This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.

Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person interviewed (signature) _____ **Date** 27 Jly 98

Inspector (signature) _____ **Date** 27 Jly 98

Field

2510-FM-LRWM0119 Rev 8/95

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT/DATA ENTRY

Site I D # 1 1 1 1 1 1 1 0 0 5 5 0

Site Name Boyertown Landfill

Address 300 Merkel Road

Gilbertsville PA 19525

Municipality Douglass Twp

Responsible Official Warren Frame

Person Interviewed

Inspector John Natal

Telephone #

Operator Name

Address

County Montgomery

Title Owner

Title

Time 1300 - 1400

Date	Inspection Date	Inspection Type	Facility Type	Inspector Number	# Vio'a: on
01 07 97 98	01 07 07 98	04	01 1	2 1 1 2 4	1 1

SIR report

Comment Holiday Inspection

Sample # Low Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01	Routine	10	Survey
02	Spill response	11	Part B
03	Remedial Action	12	Complaint
04	Follow Up	13	Withdrawn
05	Crit Stage	14	Closure
06	Sample Only	15	Post Closure
07	Permitting	16	Form 4
08	Superfund	17	Form 4 w/sample
09	Ground Water	50	Record Rev
		99	Other

FACILITY TYPE

Municipal		Residual		Hazardous	
01	Municipal Waste Landfill	06	Landfill	01	Disposal
02	Construction/Demolition Landfill	07	Demolition	02	Treatment
03	Processing	08	Processing	03	Storage
04	Incinerator	09	Incinerator	04	Transporter
05	Surface Application	10	Surface Application	05	Permit by Rule
		11	Surface Impoundment	06	Generator
		12	Surface Injection Well	07	SQG
		13	Generator	08	RRR
		14	SQG	09	Other
				50	Superfund

ER-WM-129: Rev. 10/96

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of inspection 7 July 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

A municipal/hazardous waste landfill inspection was conducted on Tuesday, July 7, 1998, by John Mital, Solid Waste Specialist, and Tom Cunningham, Hydrogeologist.

The following observations were made:

1) The raw leachate lagoon had about four feet of freeboard. Treatment lagoon B had approximately five feet of freeboard and treatment lagoon A was almost empty. Pictures were taken of leachate treatment lagoon A.

2) The leachate seep located along the leachate treatment plant fence was not flowing.

3) The material from the pits dug at the top of the landfill is still piled behind the recycling center. Vegetation is now covering the soil and waste.

4) Several monitoring wells have had the vegetation cut from around them for access.

5) The flare shed is still not in operating condition.

6) Sections of the landfill have been mowed since the last inspection.

All violations from the previous inspections still exist at the landfill. Other than grass cutting, no other visible improvements have been made at the site.

Person interviewed (signature) _____ **Date** 8 July 98

Inspector (signature) _____ **Date** 8 July 98

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT/DATA ENTRY

Site ID # 1 1 1 1 1 1 1 0 0 5 5 1 0

Site Name Boyertown Landfill

Address 300 Merkel Road

Gilbertsville PA 19525

Municipality Douglass Twp

Responsible Official Warren Frame

Person Interviewed

Inspector John Mital

Telephone #

Operator Name

Address

County Montgomery

Title Owner

Title

Time 1330 - 1500

Date	Inspection Date	Inspection Type	Facility Type	Inspector Number	# Violation
01 52 79 18	01 52 79 18	01 4	01 1	21 24	SEE RPT

Comment Follow up Inspection

Sample # Low Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01	Routine	10	Survey
02	Spill response	11	Part B
03	Remedial Action	12	Complaint
04	Follow Up	13	Withdrawn
05	Cnt Stage	14	Closure
06	Sample Only	15	Post Closure
07	Permitting	16	Form 4
08	Superfund	17	Form 4 w/sample
09	Ground Water	50	Record Rev
		99	Other

FACILITY TYPE

Municipal		Residual		Hazardous	
01	Municipal Waste Landfill	06	Landfill	01	Disposal
02	Construction/Demolition Landfill	07	Demolition	02	Treatment
		08	Processing	03	Storage
03	Processing	09	Incinerator	04	Transporter
04	Incinerator	10	Surface Application	05	Permit by Rule
05	Surface Application	11	Surface Impoundment	06	Generator
		12	Surface Injection Well	07	SQG
		13	Generator	08	RRR
		14	SQG	09	Other
				50	Superfund

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of Inspection 27 May 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

A municipal/hazardous waste landfill inspection was conducted on Monday April, 27, 1998, by John Mital, Solid Waste Specialist.

The following observations were made:

1) The raw leachate lagoon had about four feet of freeboard. Treatment lagoon B had approximately four feet of freeboard and treatment lagoon A had approximately three feet of freeboard.

2) The leachate seep located along the leachate treatment plant fence was still flowing, but it was not flowing directly into Minister Creek as in the previous inspection. The leachate was pooling on top of the soil. There was an oily sheen on the surface and a leachate odor present. Pictures were taken of the leachate seep.

3) The material from the pits dug at the top of the landfill is still piled behind the recycling center.

4) Several monitoring wells have had the vegetation cut from around them for access.

5) The flare shed is still not in operating condition. Pictures were taken of the flare shed.

6) The roll-offs stored on the landfill were inspected to ensure that no waste was being stored in them. No wastes were found.

All violations from the previous inspections still exist at the landfill. Other than grass cutting, no other visible improvements have been made at the site.

Person Interviewed (signature) _____ **Date** _____

Inspector (signature) _____ **Date** 28 May 98

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT/DATA ENTRY

Site I D # 1 1 1 1 1 1 1 0 0 5 5 0

Site Name Boyertown Sanitary Disposal Service

Address 300 Merkel Road

Gilbertsville PA 19525

Municipality Douglass Township

Responsible Official Warren Frame

Person Interviewed

Inspector John Mital

Telephone #

Operator Name

Address

County Montgomery

Title Owner

Title

Time 1300

Date	Inspection Date	Inspection Type	Facility Type	Inspector Number	# Violation
0 4 2 7 9 8	0 4 2 7 9 8	0 1	0 1	2 1 2 4	1

SR CSR Client

Comment Quarterly Inspection

Sample # Low Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01	Routine	10	Survey
02	Spill response	11	Part B
03	Remedial Action	12	Complaint
04	Follow Up	13	Withdrawn
05	Crit Stage	14	Closure
06	Sample Only	15	Post Closure
07	Permitting	16	Form 4
08	Superfund	17	Form 4 w/sample
09	Ground Water	50	Record Rev
		99	Other

FACILITY TYPE

Municipal		Residual		Hazardous	
01	Municipal Waste Landfill	06	Landfill	01	Disposal
02	Construction/Demolition Landfill	07	Demolition	02	Treatment
03	Processing	08	Processing	03	Storage
04	Incinerator	09	Incinerator	04	Transporter
05	Surface Application	10	Surface Application	05	Permit by Rule
		11	Surface Impoundment	06	Generator
		12	Surface Injection Well	07	SQG
		13	Generator	08	BBR
		14	SQG	09	Other
				50	Superfund

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of Inspection 27 April 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

A municipal/hazardous waste landfill inspection was conducted on Monday April, 27, 1998, by John Mital, Solid Waste Specialist.

The following observations were made:

1) The raw leachate lagoon had about four feet of freeboard. Treatment lagoon B had approximately seven feet of freeboard and treatment lagoon A was close to the top of the liner.

2) The leachate seep located along the leachate treatment plant fence was still flowing into Minister Creek.

3) The material from the pits dug at the top of the landfill is still piled behind the recycling center.

4) A walking inspection of the landfill was conducted. Several areas of leachate seeps were observed during the walking inspection. These leachate seeps flowed down the landfill and into the sedimentation basin. This basin empties into Minister Creek.

5) One area was observed where landfill gas was bubbling up through the leachate. A landfill gas odor was detected around this area.

6) The flare shed is still not in operating condition.

7) The areas where the pits were filled at the top of the landfill were seeded.

8) The roll-offs stored on the landfill were inspected to ensure that no waste was being stored in them. No wastes were found.

All violations from the previous inspections still exist at the landfill. Other than grass cutting, no other visible improvements have been made at the site.

This inspection report is notice of the findings of an inspection conducted by a representative of the Department. This report is formal notification of any violations observed during the inspection. Additional notification of violations may be issued concerning either violations noted herein, or other violations identified as a result of review of laboratory analyses or Department records.

This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.

Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.

Person Interviewed (signature) _____ **Date** _____

Inspector (signature) _____ **Date** 29 April 98

ER-WM-129: Rev. 10/96

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of inspection 07 April 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

On Tuesday, April 7, 1998, I (John Mital) made a routine inspection of Boyertown Landfill's leachate lagoons. All lagoons had adequate freeboard.

The leachate seep along the leachate lagoon fencing was flowing at the time of this inspection.

I met a Mr. Jeff Eysoldt, Subcontractor, at the treatment plant. Mr. Eysoldt stated that Mr. Frame hired him to run the treatment plant when Boyertown Landfill is discharging treated leachate to the Berks Montgomery Municipal Authority. He then went on to say that discharging began at 1400hrs on April 5, 1998. Boyertown Landfill is discharging 5 gallons per minute and will continue to discharge until all 10,000 gallons of treated leachate have been discharged. Mr. Eysoldt then explained that the pump usually pumps at a rate of 12 gallons per minute and that Boyertown Landfill is in the process of repairing the pump.

Waste Management has erected a fence around the recycling center to contain any materials that may blow from the recycling center.

Mr. Eysoldt said that he would inform Mr. Frame that the Department had been at the site.

erson interviewed (signature) _____ **Date** 8 Apr. 98

Inspector (signature) _____ **Date** 8 Apr. 98

ER-WM-129: Rev. 10/96

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of inspection 26 March 1998 **Identification Number** 100550

Company/Facility/Site Name Boyertown Landfill

On Thursday, March 26, I (John Mital) stopped by the Berks Montgomery Municipal Authority ("BMMA") to inquire about Boyertown Landfill. I met Mr. James Brady and spoke with him about the landfill and the leachate being generated at the landfill.

Mr. Brady stated that Boyertown Landfill has paid its previous overdue bill to the "BMMA". He then went on to explain that he is currently being required to pay in advance for "BMMA's" services.

Mr. Brady stated that the leachate has been tested and that he was present during the taking of these samples. Boyertown Landfill has to have the leachate sampled after every sixth batch has been discharged to the "BMMA".

Mr. Brady stated that Boyertown Landfill has started to treat leachate and ready it for discharge to "BMMA". Treatment lagoon B is full of treated leachate and once treatment lagoon A is full of treated leachate a discharge to "BMMA" will be made. Mr. Brady required the leachate from lagoon A to be pumped into the raw leachate lagoon and be retreated prior to discharge. At present Boyertown Landfill has the approval to discharge its treated leachate to "BMMA".

Person interviewed (signature) _____ **Date** _____

Inspector (signature) _____ **Date** 27 MAR 98

COMPLIANCE

10-FM-LRWM0119 Rev. 8/95

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT/DATA ENTRY

Site I.D. # 1 1 1 1 1 1 0 0 5 5 0

Site Name Boyertown Landfill

Address 300 Markel Road

Gilbertsville PA 19525

Municipality Douglass Twp

Responsible Official Warren Frame

Person Interviewed

Inspector John Mital

Telephone # 610 458-5300

Operator Name Warren Frame / Tristate Environmental Contracting Inc mailing

Address 1305 Pottstown Pike

Glenmoore PA 19343

County Montgomery

Title Owner

Title

Time 1100 AM

Date	Inspection Date	Inspection Type	Facility Type	Inspector Number	# Violation
1 1 1 2 9 7	1 1 1 2 9 7	0 1	0 6	2 1 2 4	

see inspection report

Comment QUARTERLY INSPECTION

Sample # Low Sample # High

Monitoring Points Sampled

INSPECTION TYPE

01	Routine	10	Survey
02	Spill response	11	Part B
03	Remedial Action	12	Complaint
04	Follow Up	13	Withdrawn
05	Crit Stage	14	Closure
06	Sample Only	15	Post Closure
07	Permitting	16	Form 4
08	Superfund	17	Form 4 w/sample
09	Ground Water	50	Record Rev
		99	Other

FACILITY TYPE

Municipal		Residual		Hazardous	
01	Municipal Waste Landfill	06	Landfill	01	Disposal
02	Construction/Demolition Landfill	07	Demolition	02	Treatment
03	Processing	08	Processing	03	Storage
04	Incinerator	09	Incinerator	04	Transporter
05	Surface Application	10	Surface Application	05	Permit by Rule
		11	Surface Impoundment	06	Generator
		12	Surface Injection Well	07	SQG
		13	Generator	08	RRR
		14	SQG	09	Other
				50	Superfund

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Date of Inspection 12 November 1997 **Identification Number** PAD048603005, 100550

Company/Facility/Site Name Boyertown Landfill

A routine inspection of Boyertown Landfill was conducted on Wednesday, November 12, 1997, by John Mital and Kevin Bauer, Solid Waste Specialists.

The following observations were made:

1) The raw leachate lagoon appeared to have four to five feet of freeboard. Treated lagoon B also had four to five feet of free board. Treated lagoon A had a ripped liner and appeared to be empty.

2) The flare shed has fallen down.

3) Three gas recovery pipes have been broken off on the southern side of the landfill. A landfill gas odor was detected in this area of the landfill.

4) The pits at the top of the landfill have been filled in with soil.

5) The landfill was inspected for any leachate seeps along its slopes. No seeps were discovered.

6) Waste Management leases space on the landfill and operates a recycling center and container storage site on the leased land.

Just before leaving the site Mr. Warren Frame arrived on site. I explained the purpose of our visit to Mr. Frame and discussed our findings with him.

On Thursday, November 13, 1997, I phoned Jim Brady, Berks-Montgomery Municipal Authority, to determine when leachate was last discharged from Boyertown Landfill. Mr. Brady stated that the last time Boyertown Landfill discharged was on June 25, 1997(52,132 gallons). He then went on to say that Mr. Frame has to pay his bill and have tests done before he will be able to discharge again.

Person Interviewed (signature) copy mailed to owner **Date** 20 NOV 97

Inspector (signature) [signature] **Date** 13 NOV 97